LAMPIRAN I

CURRICULUM VITAE

Curriculum Vitae 1

PERSONAL INFORMATION

Full Name	: Anggara Budiyanto
Gender	: Male
Birth Place and Date	: Klaten, March 20, 2001
Nationality	: Indonesian
Religion	: Islam
Phone Number	: +62 821 3757 1605
Email	: anggarabudiyanto@student.telkomuniversity.ac.id

ACADEMIC STATUS

University	: Telkom University
Major	: Bachelor of Telecommunications Engineering
Semester	: nine

EDUCATION

Institutions	City and Province	Year
Telkom University	Bandung Regency, West Java	2020-2024
SMA N 1 Karangdowo	Klaten Regency, Central Java	2016-2019
SMP N 1 Karangdowo	Klaten Regency, Central Java	2013-2016

PERSONAL ACHIEVEMENTS

Awards	Year	Description
-	-	-

SUPPORTING ACTIVITIES AND TRAININGS

Activities and Trainings	Period	Place
Artificial Intelligence Fundamentals	2024	Online
Network Technician Career Path	2024	Online
Python Essentials 2	2024	Online
QBronze	2024	Online
Cyber Threat Management	2024	Online
EPrT 101	2024	Tel-U, Bandung Regency, West Java

ORGANIZATIONAL EXPERIENCE

Organizations	Title	Period	Descriptions
The University Center of Excellence for Advanced Intelligent Communications (AICOMS)	Member of Research Laboratory (Quantum Communication)	2022 - 2024	Conducting research on multiple access channels utilizing the phenomenon of quantum entanglement.
AICOMS-Q 2023	Chairman	2023	AICOMS-Q is an annual webinar and workshop event aimed at promoting quantum technology in Indonesia.

WORKING EXPERIENCE

Work	Year	Description
National Research and Innovation Agency (BRIN)	2023	Participated in the Micro Electric Vehicle Autonomous project, developed a tunneling system using SSH and VPN methods, and conducted QoS network testing using iperf3.

SKILLS AND HOBBIES

Language Skills	: Indonesian (Native), English (Intermediate).
Computer Skills	: Microsoft Office, C, Python, Matlab, CSS, HTML, DaVinci Resolve, Cst Studio Suite. OBS Studio, Cisco Packet Tracer, Javascript, Atoll, Pathloss, Wireshark, LaTeX.
Hobbies and interests	: Interested in the development of technology and justice for all.
Others	: Problem Solving, Critical Thinking, Adaptability, Creativity, Emotional Intelligence, Teamwork, Leadership.

Curriculum Vitae 2

PERSONAL INFORMATION

Full Name	: Kartika Dwi Maharani
Gender	: Female
Birth Place and Date	: Malang, September 14, 2002
Nationality	: Indonesian
Religion	: Islam
Phone Number	: +62 812 1690 5487
Email	: kartikadwimaharani@student.telkomuniversity.ac.id

ACADEMIC STATUS

University	: Telkom University
Major	: Bachelor of Telecommunications Engineering
Semester	: 9

EDUCATION

Institutions	City and Province	Year
Telkom University	Bandung Regency, West Java	August 2020 - 2024
SMAN 7 Kediri	Kediri, East Java	August 2017 - May 2020

PERSONAL ACHIEVEMENTS

Awards	Year	Description
-	-	-

SUPPORTING ACTIVITIES AND TRAININGS

Activities and Trainings	Period	Place
EPrT 101	2024	Bandung Regency
Software Engineering Fundamental - Revou	2023	Bandung Regency
TSA OpenRAN - Digitalent	2022	Bandung Regency

ORGANIZATIONAL EXPERIENCE

Organizations	Title	Period	Descriptions
The University Center of Excellence for Advanced Intelligent Communications (AICOMS)	Member of research laboratory (high speed train)	2022 - 2024	Perform coverage calculation for Jakarta Bandung.
Al-Fath Universitas Telkom	Member of the faculty's kemuslimahan division	2020-2021	Held a muslim webinar
IEEE SB Telkom University	Member of the education division	2020-2021	Conducting LaTeX training for beginners

WORKING EXPERIENCE

Work	Year	Description
National Research and Innovation Agency (BRIN)	2023	Participated in the Micro Electric Vehicle Autonomous project, developed a tunneling system using SSH and VPN methods, and conducted QoS network testing using iperf3.

SKILLS AND HOBBIES

Language Skills	: Indonesian (Native), English (Intermediate).
Computer Skills	: C, TinkerCAD, Cisco, Python, Arduino, Wireshark, Microsoft Office, LaTeX.
Hobbies and interests	: Learning technologies, UI UX design, Machine learning.
Others	: Problem Solving

Curriculum Vitae 3

PERSONAL INFORMATION

Full Name	: Miftah Huljannah
Gender	: Female
Birth Place and Date	: Prabumulih, 09 May 2002
Nationality	: Indonesian
Religion	: Islam
Phone Number	: +62 852 6989 1418
Email	: miftahhuljannah@student.telkomuniversity.ac.id

ACADEMIC STATUS

University	: Telkom University
Major	: Bachelor of Telecommunications Engineering
Semester	: 9

EDUCATION

Institutions	City and Province	Year
Telkom University	Bandung Regency, West Java	September 2020 - present
SMAN 01 Kota Mukomuko	Mukomuko, Bengkulu	2016-Juli 2017 - Juli 2020

PERSONAL ACHIEVEMENTS

Awards	Year	Description
-	-	-

SUPPORTING ACTIVITIES AND TRAININGS

Activities and Trainings	Period	Place
USRP	2021	Online
WRITEXS	2024	Onsite
AICOMS-Q	2024	Onsite

ORGANIZATIONAL EXPERIENCE

Organizations	Title	Period	Descriptions
The University Center of Excellence for Advanced Intelligent Communications (AICOMS), Telkom University	Research Assistant	2021-2024	My project topic is Over The Horizon, and I managed many work programs, including serving as chief executive of SHIAWASE Spring 2023.
HIMAMIRA	Staff	2020-2022	Regional organization involvement.
5G-Merdeka II	Research Assistant	2022-2023	Conducted research in collaboration with The Center of Advanced Intelligent Communications (AICOMS) and PT. Corbec Communications.
Over The Horizon (OTH)	Research Assistant	2021-2022	Conducted research in collaboration with The Center of Advanced Intelligent Communications (AICOMS) and LAPAN (BRIN).
AI Laboratory, Telkom University	Research Assistant	2024	Conducting performance analysis of IndoBERT and Cendol-based machine learning models for detecting and classifying hate comments in cyberbullying cases.

WORKING EXPERIENCE

Work	Year	Description
PT. Icon Plus	Juli – Sept 2023	Carrying out work in the Network Operations Center (NOC) division and Presale.

SKILLS AND HOBBIES

Language Skills	: Indonesian (Native), English (Intermediate).
Computer Skills	: Python, MATLAB, Java, c++, and LaTeX.
Hobbies and interests	: Reading books and Cooking.

Curriculum Vitae 4

PERSONAL INFORMATION

Full Name : Nancy Olivia Syahanifa
Gender : Female
Birth Place and Date : Malang, September 01, 2002
Nationality : Indonesian
Religion : Islam
Phone Number : (+62) 896-9627-6045
Email : nancysyahanifa66@gmail.com

ACADEMIC STATUS

University : Telkom University
Major : Bachelor of Telecommunications Engineering
Semester : 9

EDUCATION

Institutions	City and Province	Year
Telkom University	Bandung Regency, West Java	August 2020 - present

PERSONAL ACHIEVEMENTS

Awards	Year	Description
DTS Scholarship - Ministry of Communications and Informatics	2020	Training scholarship for Badan Nasional Sertifikasi Profesi (BNSP) as Junior Network Administrator
DTS Scholarship - Ministry of Communications and Informatics	2021	Training scholarship of Cisco Certified Network Associate (CCNA)

SUPPORTING ACTIVITIES AND TRAININGS

Activities and Trainings	Period	Place
Vocational School Graduate Academy (VSGA) - Ministry of Communications and Informatics	2020	Online Platform
Thematic Academy - Ministry of Communications and Informatics	2021	Online Platform)

ORGANIZATIONAL EXPERIENCE

Organizations	Title	Period	Descriptions
Cyber Physical System Laboratory (CPS)	Member	2022-2023	Become a student practice assistant of telecommunication networks.

WORKING EXPERIENCE

Work	Year	Description
PT. Jasa Jejaring Wasantara (PACIFIC LINK)	2019	Internship as junior network development assistant.
Agree (PT. Telekomunikasi Indonesia)	2021	Internship as back-end developer.
PLN Icon Plus	2023	Internship as NOC.

SKILLS AND HOBBIES

Language Skills : Indonesian (Native), English (Intermediate).
Computer Skills : Python, C++, JS, Android Studio, Adobe Premiere Pro, Canva
Hobbies and interests : Reading and Traveling
Others :

LAMPIRAN II

KODE SUMBER

Tabel B.1 *Link Google Drive* kumpulan kode yang digunakan.

Nama Kode Sumber	Ekstensi	Link Kode Sumber
Cleaning Dataset	.ipynb	https://drive.google.com/file/d/1XWfYNTiS78a9nhcqf40S3bUlzpTdMAns/view?usp=sharing

Tabel B.2 *Link Google Drive* hasil penelitian IndoBERT (ipynb).

Nama Model	Ekstensi	Link Kode Sumber
5_2_1e − 1	.ipynb	https://drive.google.com/file/d/15J3agD3WjvkfWJFMaI7sJo5gAirX5qki/view?usp=drive_link
5_2_1e − 2	.ipynb	https://drive.google.com/file/d/1g7pv4x9-3NITjskLYnuy3W3SrO3PDm1i/view?usp=drive_link
5_2_1e − 3	.ipynb	https://drive.google.com/file/d/1W8kV1Bo6i2SPDVMMxqgqUrS9wV7PQakq/view?usp=drive_link
5_2_1e − 4	.ipynb	https://drive.google.com/file/d/1rqQJKA3LkMSx9xupAxtsVmMi-uyBdwpy/view?usp=drive_link
5_2_1e − 5	.ipynb	https://drive.google.com/file/d/1wI7S-3O-DIEPosm81Mvn6EUPpMARbpGn/view?usp=drive_link
5_4_1e − 1	.ipynb	https://drive.google.com/file/d/1VA_cTOMjgMDCoUwMIe2AnflRyQjfsiY7/view?usp=drive_link
5_4_1e − 2	.ipynb	https://drive.google.com/file/d/1f_yV0n9DjnhtoXcbm3nWTNWzEeSemvaS/view?usp=drive_link
5_4_1e − 3	.ipynb	https://drive.google.com/file/d/1WFjMIcpDXFFQk4OTmdG8Z5gMcv7awJra/view?usp=drive_link
5_4_1e − 4	.ipynb	https://drive.google.com/file/d/1tfC-u2XQb0tpSmOiR08m0_R0TsdWydq8/view?usp=drive_link
5_4_1e − 5	.ipynb	https://drive.google.com/file/d/1V2F5Ma5h48rqzera3EF-sbtJDNwSPGsP/view?usp=drive_link
5_8_1e − 1	.ipynb	https://drive.google.com/file/d/1iaGihmKT9AtwBaBlr8-9jybbJrzUtBa5/view?usp=drive_link
5_8_1e − 2	.ipynb	https://drive.google.com/file/d/1rtrp0U49aW4Cy0ab6U3u01nEImo0e501/view?usp=drive_link
5_8_1e − 3	.ipynb	https://drive.google.com/file/d/14ihG11mWnNwsqKQBh92ohyytdgFxDG_A/view?usp=drive_link
5_8_1e − 4	.ipynb	https://drive.google.com/file/d/1bSBN3d-r9MSQbAHZWk0mN5EylaR2Bd2M/view?usp=drive_link
5_8_1e − 5	.ipynb	https://drive.google.com/file/d/1BEKMo7prRr0ngg4YM7_b5WkWX25xVZd0/view?usp=drive_link
10_2_1e − 1	.ipynb	https://drive.google.com/file/d/1cH0hL107rLuwq7mV8dAuC7X9W9BvuzLN/view?usp=drive_link
10_2_1e − 2	.ipynb	https://drive.google.com/file/d/1xWRLI2C3UH-XnQ1-NXFMNttHV27j-AlN/view?usp=drive_link
10_2_1e − 3	.ipynb	https://drive.google.com/file/d/1QClmuzDI9SekzSmlAPDZ-oYIOQUhjJRO/view?usp=drive_link
10_2_1e − 4	.ipynb	https://drive.google.com/file/d/19oXoe9M7ziCdgNKoq_DZdq2ZL9I8pwb1/view?usp=drive_link
10_2_1e − 5	.ipynb	https://drive.google.com/file/d/1ftGjQMKx8UXLN5lEl7oe_Jvc3z9fuE-c/view?usp=drive_link
10_4_1e − 1	.ipynb	https://drive.google.com/file/d/1imVGB7HVbmsY2J06a9GPsILwvsej9DTb/view?usp=drive_link
10_4_1e − 2	.ipynb	https://drive.google.com/file/d/1Sv4U8jql3Wd5Yf-BA81rmUHdIp6yRKfW/view?usp=drive_link
10_4_1e − 3	.ipynb	https://drive.google.com/file/d/1hgLiO3m39HtgvShwy_PJAXNMPMUaY5ui/view?usp=drive_link
10_4_1e − 4	.ipynb	https://drive.google.com/file/d/17ENkyt3LMPv0BYrRw5JHsgehCoDKsIYz/view?usp=drive_link
10_4_1e − 5	.ipynb	https://drive.google.com/file/d/12tX82kqThk9fOjuDUG_MzOuJsmxZmHd7/view?usp=drive_link
10_8_1e − 1	.ipynb	https://drive.google.com/file/d/1CjEZt6Rs4QG3XDkaTssWjRKMo9GZ7lAS/view?usp=drive_link
10_8_1e − 2	.ipynb	https://drive.google.com/file/d/18TEg2Ka27flRG71qMjFQDhPh7yf7YWE9/view?usp=drive_link
10_8_1e − 3	.ipynb	https://drive.google.com/file/d/1Lg6ifOhOvmJAo5PdYzCO2VSsAH0rup3u/view?usp=drive_link
10_8_1e − 4	.ipynb	https://drive.google.com/file/d/1qe8y0EW20pMG_MxpDtx2hVw8yeHu4gC_/view?usp=drive_link
10_8_1e − 5	.ipynb	https://drive.google.com/file/d/1zNCDwJ_FmG5r0kPJvFtf6MpBcLLMfs6h/view?usp=drive_link
15_2_1e − 1	.ipynb	https://drive.google.com/file/d/193fWz3FZLM6f4xbnEm3brKMP0FAYj7qM/view?usp=drive_link
15_2_1e − 2	.ipynb	https://drive.google.com/file/d/1Cg6Cy25H5frNwC_tJpM4BZcYZLDltojF/view?usp=drive_link
15_2_1e − 3	.ipynb	https://drive.google.com/file/d/12I3aj8QL_chnapam7Hm157o06b_KdIsQ/view?usp=drive_link
15_2_1e − 4	.ipynb	https://drive.google.com/file/d/1WKCUGEMB_i2Q_YJ80YwnqUNiqNkxseVV/view?usp=drive_link
15_2_1e − 5	.ipynb	https://drive.google.com/file/d/1f9M_XLghZdkryQPEi9VfRgcrIqP594tu/view?usp=drive_link
15_4_1e − 1	.ipynb	https://drive.google.com/file/d/1JjFY5s_bn7VMY-MlEEr7qGBfU_byA_Ia/view?usp=drive_link
15_4_1e − 2	.ipynb	https://drive.google.com/file/d/1wsYOC6OTIlnmr7G247nj_pMciT7r9ZzQ/view?usp=drive_link
15_4_1e − 3	.ipynb	https://drive.google.com/file/d/1T7y45w0d1LE69bd6PA9Zn9efhV3Vmguh/view?usp=drive_link
15_4_1e − 4	.ipynb	https://drive.google.com/file/d/14QvK7oduW4HoGwBOZwl9ct1tElFKtO7w/view?usp=drive_link
15_4_1e − 5	.ipynb	https://drive.google.com/file/d/1JG6sYkNGQQjPBlPCceQeUm-mnBr-JXVn/view?usp=drive_link
15_8_1e − 1	.ipynb	https://drive.google.com/file/d/1qDJP6Dm4uxJFXquOTw6A4LwraN6J9brO/view?usp=drive_link
15_8_1e − 2	.ipynb	https://drive.google.com/file/d/1mBaseHuE8QB296_MrUPz9HLPQ-TXOdw_/view?usp=drive_link
15_8_1e − 3	.ipynb	https://drive.google.com/file/d/10YrmESdX1JyJo4HVg0gvGr_Ja17mDN9l/view?usp=drive_link
15_8_1e − 4	.ipynb	https://drive.google.com/file/d/1OmneBpJoAbVTrbqQpiqq9MbtyoJe-LsM/view?usp=drive_link
15_8_1e − 5	.ipynb	https://drive.google.com/file/d/1n2afHrkeIXG5Imfb9YJfHubgyeOe_pQb/view?usp=drive_link
20_2_1e − 1	.ipynb	https://drive.google.com/file/d/1lieufupfTBZx_5HCMiMe0B51FAyghrHg/view?usp=drive_link
20_2_1e − 2	.ipynb	https://drive.google.com/file/d/1q8ubpc0Uh3TE9GYztbScdY-0rLOaYwB4/view?usp=drive_link
20_2_1e − 3	.ipynb	https://drive.google.com/file/d/1bD0PBukP2JBXSTrL9RswokV9IBDWPsV6/view?usp=drive_link
20_2_1e − 4	.ipynb	https://drive.google.com/file/d/19v_jupImTCuvHCj3sxO04ZIxfnVF2QnT/view?usp=drive_link
20_2_1e − 5	.ipynb	https://drive.google.com/file/d/1rRbCSVZPMegjXWy9GngF094EPg37qinN/view?usp=drive_link
20_4_1e − 1	.ipynb	https://drive.google.com/file/d/1sW-lmlaWIKMEDft_T-janIwTiINdZE2o/view?usp=drive_link
20_4_1e − 2	.ipynb	https://drive.google.com/file/d/1XoYxpvSblMrcKG0vWeHZta6HVk9j3I1J/view?usp=drive_link
20_4_1e − 3	.ipynb	https://drive.google.com/file/d/1Fw6dlqhrN4c5abRhU2bjefHcJeT8U3GO/view?usp=drive_link
20_4_1e − 4	.ipynb	https://drive.google.com/file/d/1KtLAehOvyxb-vOheKXpT3pQwxaMJRhVV/view?usp=drive_link
20_4_1e − 5	.ipynb	https://drive.google.com/file/d/1UEd-qxOM-eNGPejhB_2DNDqKLxtzK71-/view?usp=drive_link
20_8_1e − 1	.ipynb	https://drive.google.com/file/d/1stgcDGSPkmVy7zDAHixqaJGTTc3JxKXo/view?usp=drive_link
20_8_1e − 2	.ipynb	https://drive.google.com/file/d/1tLVyYvRiegtMliOTCR6JRd0U2z7E4jZa/view?usp=drive_link
20_8_1e − 3	.ipynb	https://drive.google.com/file/d/1w6hVT_xJo1ez5tIuUeRVuasI10kN1yYj/view?usp=drive_link
20_8_1e − 4	.ipynb	https://drive.google.com/file/d/1qbCFad34NSYc8zIO_1TV_l3E3wPO0DFS/view?usp=drive_link
20_8_1e − 5	.ipynb	https://drive.google.com/file/d/1FcP4oIsEMUTIl2oDy4nmvJMLotpg5zLK/view?usp=drive_link

Tabel B.3 *Link Google Drive* hasil penelitian Cendol (ipynb).

Nama Model	Ekstensi	Link Model
5_2_1e − 1	.ipynb	https://drive.google.com/file/d/1PW3LOf2ERUCNaDIp8ZC7ET1TCbwTUkSC/view?usp=drive_link
5_2_1e − 2	.ipynb	https://drive.google.com/file/d/1dyYLcG_-aqv7VKP3eWqegg8lioAyqTh3/view?usp=drive_link
5_2_1e − 3	.ipynb	https://drive.google.com/file/d/1ZeQBSL10fPFiTN00xi9s6C5yUYhPgvGJ/view?usp=drive_link
5_2_1e − 4	.ipynb	https://drive.google.com/file/d/12QSgpfDZ2LLDVTAaazoR9ZVZXQwIyrZC/view?usp=drive_link
5_2_1e − 5	.ipynb	https://drive.google.com/file/d/1GEmyRRaZd-R9mJ0lsH4rOA-_NRP3J8sE/view?usp=drive_link
5_4_1e − 1	.ipynb	https://drive.google.com/file/d/1sI-y0qWNm8dSELD4hNkgT1Y7NcCnyy86/view?usp=drive_link
5_4_1e − 2	.ipynb	https://drive.google.com/file/d/1E-8KjZishn_IHpdg-k8libIv5AAVWsgQ/view?usp=drive_link
5_4_1e − 3	.ipynb	https://drive.google.com/file/d/1tR-rKeA-yDRg5_3QRCs_Ci1f94R43SwV/view?usp=drive_link
5_4_1e − 4	.ipynb	https://drive.google.com/file/d/1YmGhvxYkzJwgEia3-sj0j3hyBEk55gDe/view?usp=drive_link
5_4_1e − 5	.ipynb	https://drive.google.com/file/d/1W01_TRwwRaxA6VDZlK471smEfDOH1sXf/view?usp=drive_link
5_8_1e − 1	.ipynb	https://drive.google.com/file/d/1u1Vzzej1hdi1eWHFevRYbGFxY4r0H0wO/view?usp=drive_link
5_8_1e − 2	.ipynb	https://drive.google.com/file/d/1yJy-51FQTi0CMTaPGYgzWIBvFvBcl-Yz/view?usp=drive_link
5_8_1e − 3	.ipynb	https://drive.google.com/file/d/1ZK05OYnOMP_dgEjooi68B58i1dhS_vnb/view?usp=drive_link
5_8_1e − 4	.ipynb	https://drive.google.com/file/d/1SzjJpzwU69Ly-84JfStbT1A1Wn5FoHgs/view?usp=drive_link
5_8_1e − 5	.ipynb	https://drive.google.com/file/d/1EqEFmOmvLhLwEwlGU4wDOlQYllHHNRIa/view?usp=drive_link
10_2_1e − 1	.ipynb	https://drive.google.com/file/d/16MGAU_89FAEu8HdgPy9QieH-vzqAQq_r/view?usp=drive_link
10_2_1e − 2	.ipynb	https://drive.google.com/file/d/1lGGKywbNT9XwuuuP2i12dvs8WD9wMTr_/view?usp=drive_link
10_2_1e − 3	.ipynb	https://drive.google.com/file/d/1dUWOVn97XtdFqvXQndG15lzgGc2ByLMb/view?usp=drive_link
10_2_1e − 4	.ipynb	https://drive.google.com/file/d/1GE4upTp4Lj-VGuHi7pxskbRqrZFecULc/view?usp=drive_link
10_2_1e − 5	.ipynb	https://drive.google.com/file/d/1GVvjq2YJgoM-CPx3KYpvMJFDupw34VFW/view?usp=drive_link
10_4_1e − 1	.ipynb	https://drive.google.com/file/d/1y5-jw-58BJYcnW_FLJe28VL6j8Ar1qqe/view?usp=drive_link
10_4_1e − 2	.ipynb	https://drive.google.com/file/d/1l3j3TGXieoZdF0LXZUK_H5eMhpPAVSTV/view?usp=drive_link
10_4_1e − 3	.ipynb	https://drive.google.com/file/d/1_-LrWYg1M9MG1vsl6TreDHbGURbCZVB6/view?usp=drive_link
10_4_1e − 4	.ipynb	https://drive.google.com/file/d/1YNBpSB11gO-IXO3V3JjN-vxpW9vyXaBT/view?usp=drive_link
10_4_1e − 5	.ipynb	https://drive.google.com/file/d/1wUmus5z5wWWq9uxhwpDul0-ADDtcu59Z/view?usp=drive_link
10_8_1e − 1	.ipynb	https://drive.google.com/file/d/1tVZL9WV9pCfgMBZxrjkuSABY7ee2vuxn/view?usp=drive_link
10_8_1e − 2	.ipynb	https://drive.google.com/file/d/1pi6JrUNbwR5QYIZJDTh2j1hiiJ681_Rz/view?usp=drive_link
10_8_1e − 3	.ipynb	https://drive.google.com/file/d/15Aj-A2NapjcmLU6RGO2ybRB4Bs5VujBB/view?usp=drive_link
10_8_1e − 4	.ipynb	https://drive.google.com/file/d/1ngoy5sbeKQLMdxw3vOedcYrNwtTPxQus/view?usp=drive_link
10_8_1e − 5	.ipynb	https://drive.google.com/file/d/1Hbh2MzliHpnDDU38qG1uo7mPJIo1O-un/view?usp=drive_link
15_2_1e − 1	.ipynb	https://drive.google.com/file/d/1FWklPNL9Vn74MNAd3yiKg61Tx2UMqEaL/view?usp=drive_link
15_2_1e − 2	.ipynb	https://drive.google.com/file/d/1AsSvqkAktqtAJ1ikricipUk0lMlQyfRI/view?usp=drive_link
15_2_1e − 3	.ipynb	https://drive.google.com/file/d/1Oec3960FCW6Jjrn2FVhxs5DXbkXLU1Ox/view?usp=drive_link
15_2_1e − 4	.ipynb	https://drive.google.com/file/d/1uFXPd5sRukrFw6F8b9CjAK7zbf0uO58b/view?usp=drive_link
15_2_1e − 5	.ipynb	https://drive.google.com/file/d/1-VO8bTwgp0jXBC8vqNXObzAOR1nGkRwU/view?usp=drive_link
15_4_1e − 1	.ipynb	https://drive.google.com/file/d/1dw7S98qAXsnCsgEVxXJFIZLnDUEdvu67/view?usp=drive_link
15_4_1e − 2	.ipynb	https://drive.google.com/file/d/1wO9RdBFNLF9w3xVLyWIaRE6RiPb9kk35/view?usp=drive_link
15_4_1e − 3	.ipynb	https://drive.google.com/file/d/1rh4qPLVLWzJe5Ep5jk9Zql3W_icUcyJM/view?usp=drive_link
15_4_1e − 4	.ipynb	https://drive.google.com/file/d/1vUyq7ObknforkKeMTMIdlQQFV27QN0WH/view?usp=drive_link
15_4_1e − 5	.ipynb	https://drive.google.com/file/d/1BdZncsXZ26FG8xrDzPIDVUPZv1FH9Auv/view?usp=drive_link
15_8_1e − 1	.ipynb	https://drive.google.com/file/d/1m0MG3XaoV07BPDWTkGUGIltrFELSrrIA/view?usp=drive_link
15_8_1e − 2	.ipynb	https://drive.google.com/file/d/19E62T1b0lNkWtGXpmb35q9g-h2KXFnDU/view?usp=drive_link
15_8_1e − 3	.ipynb	https://drive.google.com/file/d/1xts3YPF_AAtWdNwQKPx8QSszzlIBKpNg/view?usp=drive_link
15_8_1e − 4	.ipynb	https://drive.google.com/file/d/1bTW9MDXHNu_Y7UH_ZKq3zz0USVxKRxz1/view?usp=drive_link
15_8_1e − 5	.ipynb	https://drive.google.com/file/d/1f0It_rAz4t_OYw71W88WlI1YoOyjeXih/view?usp=drive_link
20_2_1e − 1	.ipynb	https://drive.google.com/file/d/1mrzqP8FNa8wBb5ctx7O0GCxcsv2sW3Gk/view?usp=drive_link
20_2_1e − 2	.ipynb	https://drive.google.com/file/d/1cwC4sH4pysl3Galg3g6Q0b_8d5GQWQqa/view?usp=drive_link
20_2_1e − 3	.ipynb	https://drive.google.com/file/d/1DD2_JTPJlYsqKMRYwyPi8N4t6ZH9HwUk/view?usp=drive_link
20_2_1e − 4	.ipynb	https://drive.google.com/file/d/15T-pNawXYwO9n1zjaSJano0mjZ_2-b2N/view?usp=drive_link
20_2_1e − 5	.ipynb	https://drive.google.com/file/d/1EfKnPWmCbsHv-C_jUlBuakvpn4Ry0VWm/view?usp=drive_link
20_4_1e − 1	.ipynb	https://drive.google.com/file/d/1fqXr1oSfiI5ddaOt6FEFGaI52T5k3b12/view?usp=drive_link
20_4_1e − 2	.ipynb	https://drive.google.com/file/d/14q12NA5nYvvk9frhVk1Re9X2neqSxymV/view?usp=drive_link
20_4_1e − 3	.ipynb	https://drive.google.com/file/d/10RCbagEqm9J-_zz4QzQrGubTXG8qK8o-/view?usp=drive_link
20_4_1e − 4	.ipynb	https://drive.google.com/file/d/19pdLyL6H2CVThCi89vNcDZnFWz1Mz4oV/view?usp=drive_link
20_4_1e − 5	.ipynb	https://drive.google.com/file/d/11jb345g3pUQ8gWkRonRXKa3K_qjojsWC/view?usp=drive_link
20_8_1e − 1	.ipynb	https://drive.google.com/file/d/1sZ6U_pXQacvQj13HVcUbbB8g5m0rP-DG/view?usp=drive_link
20_8_1e − 2	.ipynb	https://drive.google.com/file/d/1Fn21Ne10BBUwTI5SNQFkewbSaSdRSMde/view?usp=drive_link
20_8_1e − 3	.ipynb	https://drive.google.com/file/d/1G34G1nq3Uxok8ZUg0dnAHiRG6adjzFSW/view?usp=drive_link
20_8_1e − 4	.ipynb	https://drive.google.com/file/d/1KCvGHhjaFHozI-VYPs5fU1QaGgFrfsJC/view?usp=drive_link
20_8_1e − 5	.ipynb	https://drive.google.com/file/d/1gQseB0OVlgvCghjFUe1WoSOvZWxpcPMJ/view?usp=drive_link

LAMPIRAN III

DATASET

Tabel C.1 *Link Google Drive* hasil dataset (csv).

Nama	Ekstensi	Link Dataset
Data Mentah	.csv	https://drive.google.com/file/d/1IGpGXqAXWvrnyBAFlIPpGIa31OtHQUCf/view?usp=sharing
Dataset yang digunakan	.csv	https://drive.google.com/file/d/10NKIPZgY7hcWkG4tchNzN6YLYXVjbph_/view?usp=drive_link
Data Terlabel	.csv	https://drive.google.com/file/d/1Gp4YUB5HFQEwrl6bQ0GJfISmEImKQCDB/view?usp=drive_link
Tambahan Data Positif	.csv	https://drive.google.com/file/d/1eoqC3MxTlmJLlOI8FjdNfn92g4iVh9RV/view?usp=drive_link
Tambahan Data Netral	.csv	https://drive.google.com/file/d/170rY1BIGCG755FwZe41fB1ShGjvCEbyr/view?usp=drive_link

LAMPIRAN IV

HASIL PENELITIAN

LAMPIRAN IV A

Tabel Accuracy dan Loss

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	13.1457503346728 49	0.3283757914887351	8.3333278806586	0.3033112582781457
2.0	15.738601934643 04	0.3320571344426447	9.277525339628522	0.3364238410596026 6
3.0	15.991755711246014	0.3382417906052127 6	15.935143797021164	0.3364238410596026 6
4.0	16.152589743915 24	0.3311736121337064	20.698672578209326	0.3602649006622516 4
5.0	15.072588976757826	0.3361802385510234	4.939716251272904 5	0.3033112582781457

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.8908000878633796	0.331026358415 55	1.8494639007668747	0.3033112582781457
2.0	1.6932438074208542	0.3297010749521425	1.7378407917524639	0.3033112582781457
3.0	1.9354999628448937	0.3285230452068914 6	3.9891756509479723	0.3033112582781457
4.0	1.8365950213023434	0.3264614931527021	1.4649717763850563	0.3033112582781457
5.0	1.750238019933549	0.3342659402149904 5	1.2662095414964776	0.3033112582781457

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.1930569858938 56	0.3373582682962744 7	1.2035892536765 65	0.3033112582781457
2.0	1.1867136132450 35	0.3311736121337064	1.1063564746003403	0.3364238410596026 6
3.0	1.1998142056667342	0.3308791046973936	1.2179330443081102	0.3602649006622516 4
4.0	1.1961854386666 64	0.3333824179060521	1.2309104605724936	0.3602649006622516 4
5.0	1.1804402804065 79	0.3307318509792372 4	1.1172761628502295	0.3364238410596026 6

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.8831130999093272	0.5367398026800176	1.096544563142877	0.3602649006622516 4
2.0	1.1092032022835 65	0.3350022088057723 6	1.0985526302678962	0.3364238410596026 6
3.0	1.1079139702452085	0.3323516418789574 4	1.0973604917526245	0.3602649006622516 4
4.0	1.1067625499726466	0.3420703872772787 3	1.1286529446903029	0.3364238410596026 6
5.0	1.1072755513539443	0.3470770136945958	1.1126376999051948	0.3602649006622516 4

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.0252005671453607 37	0.9926373140921808	0.4272910485914173	0.9072847682119205
2.0	0.0088851702465901 06	0.9972021793550288	0.4799512783679682 5	0.9033112582781457
3.0	0.0183539987429793 4	0.9938153438374319	0.3962299639023656 5	0.8913907284768212
4.0	0.0113287164096128 01	0.9966131644824032	0.4204485043751590 7	0.9086092715231788
5.0	0.0092535446482734 95	0.9967604182005596	0.4266955096315972 5	0.9059602649006623

(e)

Gambar D.1 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 5, *batch* 2 dan *learning rate* 10e-1 - 10e-5 pada model IndoBERT.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	14.6217057740730 44	0.31968782211750846	17.8058313369750 96	0.33642384105960266
2.0	16.237457037393 28	0.341481372404653 2	36.257192099721806	0.3033112582781457
3.0	16.278953167865 85	0.3304373435429245	36.606099158839 18	0.36026490066225164
4.0	15.979948253317 07	0.342070387277278 73	26.068641672636332	0.36026490066225164
5.0	15.846072050055009	0.33411868649683407	8.27342217094019 9	0.33642384105960266

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.8684123351520587	0.33382417906052125	1.5688332149856 97	0.3033112582781457
2.0	1.8998642294229973	0.331026355841555	2.9988589280530027	0.33642384105960266
3.0	1.8011096270822946	0.330584597261080 86	1.1854199365565652	0.36026490066225164
4.0	1.8251811240671 38	0.329406567515829 75	1.2944520944043 21	0.3033112582781457
5.0	1.7664053010084042	0.330731850979237 24	1.4304743835800573	0.33642384105960266

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.1865622785262702	0.33573847739655427	1.2507658763935692	0.33642384105960266
2.0	1.1792419140695543	0.32439994109851 27	1.2784301444103843	0.33642384105960266
3.0	1.1714664761534288	0.33220438816080106	1.270998768430007	0.36026490066225164
4.0	1.1988906109852 56	0.33029008982476 81	1.2663173838665611	0.3033112582781457
5.0	1.1797368704079179	0.32852304520689146	1.3197529629657143	0.36026490066225164

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.6509313900528302	0.7026947430422619	0.7157507218812641	0.623841059602649
2.0	0.6995588419575012	0.6470328375791489	0.7612805303774381	0.6185430463576159
3.0	0.693015241194 67	0.65719334413193 93	0.7207272011982767	0.623841059602649
4.0	0.6899050713217301	0.65527904579590 63	0.7413896297153674	0.623841059602649
5.0	0.6873549602759039	0.6582241201590 34	0.7180348214350248	0.623841059602649

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.2850954644541 06	0.8886761890737741	0.2215428831987083	0.9165562913907285
2.0	0.1467027533314 0032	0.9450743631276 69	0.2223293519309 2807	0.9139072847682119
3.0	0.0615625393148 9669	0.9815932852304521	0.2904471370183 2253	0.9125827814569536
4.0	0.0293541792121 6396	0.9917537917832425	0.3465484382832 8397	0.9125827814569536
5.0	0.0226254479481 9478	0.9942571049919 01	0.4332109881947 92	0.8953642384105 96

(e)

Gambar D.2 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 5, *batch* 4 dan *learning rate* 10e-1 - 10e-5 pada model IndoBERT.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	16.9868412395528 95	0.3260197319982 33	12.467979978260 24	0.3364238410596 0266
2.0	17.5537383033333 47	0.3358857311471 065	23.152028214304 07	0.3033112582781457
3.0	17.9056820024169 1	0.3263142394345 4574	2.5213675072318 63	0.3602649006622 5164
4.0	13.8735979711911 3	0.3388308054778 3834	20.389972325375 204	0.3602649006622 5164
5.0	14.9937155024182 53	0.3379472831689	42.685860362805 82	0.3364238410596 0266

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.9013538704954693	0.32690325430717126	1.1390025189048365	0.3602649006622 5164
2.0	1.9502821619785857	0.3326461493152702	2.0700096701320847	0.3364238410596 0266
3.0	1.7386190285741652	0.3433956707406862	1.364842845264234	0.3602649006622 5164
4.0	1.7314529251153674	0.3282285377705787	1.5964035228679054	0.3602649006622 5164
5.0	1.818584864215379	0.32690325430717126	2.13416291851746 4	0.3364238410596 0266

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.1819956066751 65	0.3298483286702 8895	1.1435775957609 478	0.3364238410596 0266
2.0	1.1753340359290 16	0.3416286261228 096	1.1179317831993 103	0.3602649006622 5164
3.0	1.1784959277500 11	0.3339714327786 7763	1.1567239798997 577	0.3364238410596 0266
4.0	1.1910317413798 49	0.3258724782800 766	1.1067902263842 13	0.3364238410596 0266
5.0	1.1819878690585 37	0.3242526873035 634	1.1543152244467 485	0.3364238410596 0266

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.9972150758198419	0.4351347371521131	1.0964892814033 91	0.3602649006622 5164
2.0	1.1070292439000204	0.3366219997054925 6	1.1003388480136 27	0.3364238410596 0266
3.0	1.1062003227369805	0.3403033426594 0215	1.1085594340374 596	0.3033112582781457
4.0	1.1055693606746 21	0.3383890443233692	1.1054798728541 324	0.3364238410596 0266
5.0	1.1073013152334799	0.3403033426594 0215	1.1237873384827062	0.3033112582781457

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.2868396073532618 6	0.8849948461198646	0.2178037254924 0526	0.9125827814569536
2.0	0.1478213360272589 1	0.9477249300544839	0.2548770470005509	0.8940397350993378
3.0	0.0653827273363940 8	0.9767339125312914	0.3091096029966 1383	0.9033112582781457
4.0	0.0288151624241324 95	0.991164776910617	0.3368229450976574	0.9046357615894004
5.0	0.0204449149980034 24	0.9938153438374319	0.3874633971132999 7	0.9072847682119205

(e)

Gambar D.3 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 5, *batch* 8 dan *learning rate* 10e-1 - 10e-5 pada model IndoBERT.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	12.7312843229349452	0.3379472831689	10.4758453820881008	0.360264900662251664
2.0	16.3217527920421940	0.3431011633043734 6	4.4195120685978940	0.3033112582781457
3.0	17.2611789002014150	0.3311736121337064	13.7535123172559230	0.3364238410596026 6
4.0	16.0259835966484830	0.3410396112501840 6	21.0308000664961980	0.3033112582781457
5.0	14.4999539846525880	0.3379472831689	9.5828967044228	0.360264900662251664
6.0	15.7442271379475310	0.3360329848328670 3	21.7910824825088920	0.3364238410596026 6
7.0	18.0495604364414250	0.3333824179060521	35.1132344597764350	0.360264900662251664
8.0	19.1630639705556870	0.3333824179060521	14.2333162106965720	0.3033112582781457
9.0	15.0351568765051070	0.3385362980415256	4.6106251603678650	0.360264900662251664
10.0	14.5753098882129240	0.3347077013694596	15.4551400661468850	0.3033112582781457

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.8315868762412820	0.3313208658518627 7	1.4660960046868576	0.3033112582781457
2.0	1.8059223815886516	0.3372110145781181	2.3861398947866340	0.3033112582781457
3.0	1.7623123431795478	0.3336769253423648 7	1.3115477969771938	0.360264900662251664
4.0	2.0130081530594572	0.3385362980415256	1.3689668674218027	0.360264900662251664
5.0	1.8312040052790244	0.3226328964806361 4	1.7101773437007740	0.3033112582781457
6.0	1.9349462064893563	0.3372110145781181	2.0941687985470420	0.3364238410596026 6
7.0	1.9108640464863030	0.3241054336621999 6	1.9961556146019384	0.3033112582781457
8.0	1.8555044785264805	0.3269032543071712 6	1.3839680232499776	0.3033112582781457
9.0	1.7314090867767065	0.3344131939353146 84	1.3864194531189769	0.3033112582781457
10.0	1.868954826089322	0.3305845972610808 6	2.3726239016181543	0.3033112582781457

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.1921081188429932	0.3317626270063319	1.1981262941109507	0.360264900662251664
2.0	1.1939485684581304	0.3369165071418053	1.1208602767241629	0.360264900662251664
3.0	1.1805837112265003	0.3338241790605212 5	1.151110849882427	0.3033112582781457
4.0	1.181154450553045	0.3332351641878957	1.1285221074756824	0.3364238410596026 6
5.0	1.1794709547810054	0.3420703872727873	1.174728963249608	0.3033112582781457
6.0	1.1633028581089069	0.3354439699602415	1.1222172285381116	0.3033112582781457
7.0	1.1710457189625088	0.3338241790605212 5	1.232090751748336	0.3364238410596026 6
8.0	1.1689619084269476	0.3267560005890149	1.1013712167739869	0.3033112582781457
9.0	1.1857118256240908	0.3354439699602415	1.1798838954875344	0.360264900662251664
10.0	1.180292703869486	0.3369165071418053	1.0977654419447247	0.360264900662251664

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.0010567053788297	0.4371962892063024 4	1.1249527492021258	0.3364238410596026 6
2.0	1.1087081134670334	0.3372110145781181	1.1074404553363197	0.3033112582781457
3.0	1.1088353372996213	0.3413411868864968	1.1007028905968916	0.360264900662251664
4.0	1.1076927434288852	0.3323516418789574 4	1.0973130979036030 3	0.360264900662251664
5.0	1.1064809129010662	0.3299955823884555 3	1.1029675358222015	0.3033112582781457
6.0	1.106605206487878	0.3355912236783979	1.1033917489804719	0.3033112582781457
7.0	1.1093093222807940	0.3251362096892946 3	1.1023213348890606	0.3364238410596026 6
8.0	1.1055021649676302	0.3329406567515829 6	1.0961267454443245	0.360264900662251664
9.0	1.1077281029541726	0.3379472831689	1.1075121622989053	0.3033112582781457
10.0	1.1066117126613118	0.3363274922691798	1.0991430357882852	0.3033112582781457

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.2994069768375676	0.8836695626564571	0.2510522795439266	0.8993377483443709
2.0	0.147490122545844	0.9462523928729201	0.2415381242128971 4	0.895364238410596
3.0	0.0632033604182806 5	0.9785009571491681	0.3846805225922971	0.8927152317880794
4.0	0.0337710079739544 4	0.9886614637019585	0.3427252032720533	0.900662251655629 2
5.0	0.0155517766012870 43	0.9946988661463702	0.3911361067414921	0.8980132450331125
6.0	0.0200459547914376 5	0.9920482992195553	0.4235819010624637 4	0.8940397350993378
7.0	0.0157329108680301 44	0.9944043587100574	0.4177288509315602 6	0.9019867549668874
8.0	0.0024281180341625464	0.9995582388455309	0.600694357242671 1	0.8913907284768212
9.0	0.0159574228585148 55	0.9958768958916213	0.4598509771082287	0.9086092715231788
10.0	0.0220367642352220 4	0.9921955529377117	0.5504901751636919	0.8807947019867549

(e)

Gambar D.4 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 10, *batch* 2 dan *learning rate* 10e-1 - 10e-5 pada model IndoBERT.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	15.5393196631516 94	0.33883080547783834	19.8482518597653 05	0.36026490066225164
2.0	17.0568011789917 23	0.33662199970549256	22.6540223472996 76	0.3033112582781457
3.0	17.1645381750431 45	0.33750552201443085	5.7536333268255936	0.36026490066225164
4.0	18.4653860306009 68	0.31983507583566484	46.0732464890731	0.36026490066225164
5.0	17.9170275440766 46	0.33838904043233692	23.5587842640123 88	0.33642384105960266
6.0	16.8050701004596 7	0.32366367250773 08	15.7495472958213 4	0.33642384105960266
7.0	16.2504102567340 25	0.33838904043233692	4.3411656429893 09	0.33642384105960266
8.0	18.4226007931926 08	0.33323516418789 57	20.5888988844226 76	0.36026490066225164
9.0	19.2071733728876 1	0.33514946252392874	15.7767140865325 93	0.33642384105960266
10.0	17.2658913893750 2	0.32822853777057 87	6.4240867815519636	0.33642384105960266

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.9017474572004223	0.31909880724488293	1.1034521624435184	0.36026490066225164
2.0	1.7180447324285532	0.32366387250773 08	1.1216343289927433	0.36026490066225164
3.0	1.6780834094795658	0.33809453688705 64	2.5129985483069 17	0.3033112582781457
4.0	1.8716289010008598	0.33691650714180 53	2.37636983582848	0.36026490066225164
5.0	1.8917505797283949	0.33426594021499045	1.2765688068795 46	0.36026490066225164
6.0	1.8220157642773098	0.32410543662199996	1.1077910749535 81	0.36026490066225164
7.0	1.7361436813402793	0.33058459726108086	1.7691333300188967	0.36026490066225164
8.0	1.8655630137389625	0.33559122367839 79	1.3690860258905 51	0.33642384105960266
9.0	1.7721088790500403	0.33809453688705 64	3.0677124065850 91	0.36026490066225164
10.0	1.9979713533876642	0.33883080547783834	1.6168439764725535	0.3033112582781457

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.2005973583256258	0.33708637608599617	1.1849624106758518	0.3033112582781457
2.0	1.1790635144893076	0.33323516418789 57	1.1562106810118022	0.36026490066225164
3.0	1.1710606725673653	0.33411868649683407	1.106897032888312	0.36026490066225164
4.0	1.1745214236217898	0.33294065675158296	1.1991394438241658	0.33642384105960266
5.0	1.1748920707876747	0.33441319393514684	1.1235721362264532	0.33642384105960266
6.0	1.161577668220893	0.3304373435429245	1.1283056171316 85	0.33642384105960266
7.0	1.1458797138908305	0.3221911135326167	1.1182487274471082	0.33642384105960266
8.0	1.1425470958328 92	0.34207038727727873	1.1421983693775377	0.33642384105960266
9.0	1.1443066773471928	0.33146811957001915	1.0972278231068662	0.36026490066225164
10.0	1.1233042556489736	0.3383890443233692	1.1092533676247849	0.36026490066225164

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.0156262289684428	0.43322043881608013	1.1054881202547173	0.36026490066225164
2.0	1.109255348554 91	0.33279340303342 66	1.1040806418971012	0.3033112582781457
3.0	1.1083777855085681	0.33632749226917 98	1.1010393092506 81	0.33642384105960266
4.0	1.1060464359003748	0.32690325430717126	1.0996452682896665	0.3033112582781457
5.0	1.1047930068767533	0.32660874687085 85	1.0997556899723253	0.34437086092715 23
6.0	1.100994552754401	0.33809453688705 64	1.0973351848752875	0.3033112582781457
7.0	1.0986492173972202	0.33308791046973935	1.0896952760846992	0.34304637615894
8.0	1.1051987985278469	0.33323516418789 57	1.0914215947452344	0.34437086092715 23
9.0	1.0978464793821947	0.34133411868684968	1.1144883877352665	0.36158940397350 99
10.0	1.101734923881131	0.33809453688705 64	1.1033913668833282	0.3033112582781457

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.28956480666487571	0.88985421881902 52	0.21556756934151053	0.91655629139072 85
2.0	0.14398188579655324	0.94801943749079 66	0.22309129259941218	0.91390728476821 19
3.0	0.06324358317375488	0.97908997202179 36	0.27079597011049 23	0.90728476821192 05
4.0	0.03328065487323877	0.98969223972905 32	0.34350801554422 73	0.90728476821192 05
5.0	0.01671003407253790 5	0.99425710499190 1	0.41631737458300137	0.90596026490066 23
6.0	0.01295152253655580 65	0.99558238845530 84	0.46146344260088 98	0.90993377483443 7
7.0	0.00883014293522801 6	0.99749668679134 15	0.48455713959502 694	0.90596026490066 23
8.0	0.02155728375648057 3	0.99249066037402 44	0.47669026187412 733	0.90728476821192 05
9.0	0.00973568815761684 6	0.99690767191871 6	0.46607687458163 13	0.90993377483443 7
10.0	0.01097996517057320 4	0.99661316448240 32	0.44666974098332 79	0.90866225165562 92

(e)

Gambar D.5 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 10, *batch* 4 dan *learning rate* 10e-1 - 10e-5 pada model IndoBERT.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	14.4887138029431O1	0.32940656751582975	11.837364282106098	0.3033112582781457
2.0	16.705984027773248	0.33323516418789S7	4.864296319610194	0.33642384105960266
3.0	17.075718427434545	0.343690178176999	15.940530405546649	0.3033112582781457
4.0	15.623369480225447	0.33456044765133032	10.401649955699318	0.36026490066225164
5.0	15.165525347590364	0.33485495508761l6	5.3497737181814O9	0.33642384105960266
6.0	18.308666501856806	0.3352967162420851	13.648148376063297	0.36026490066225164
7.0	17.737197546992622	0.33588573111471D65	5.719343185424805	0.36026490066225164
8.0	15.3358956598956l6	0.326019731998233	6.503320967523675	0.3033112582781457
9.0	16.785270527619495	0.32484170225298187	11.323528673774318	0.36026490066225164
10.0	15.652853027108982	0.33308791046973935	13.400095181716116	0.36026490066225164

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.8723826663232945	0.34427919304962l5	1.5508470974470l4	0.36026490066225164
2.0	1.956053932718l5	0.331762627O063319	1.581214169452065	0.33642384105960266
3.0	1.796124902785316	0.33397143277867763	1.389043035005268l	0.36026490066225164
4.0	1.8458333554462172	0.32057134442644675	1.3567261331959775	0.33642384105960266
5.0	1.7149847809080S2	0.331909880724488l	1.594847427543841	0.33642384105960266
6.0	1.838229996366l302	0.33411868649683407	1.258506882l907044	0.33642384105960266
7.0	1.9145600051389846	0.331909880724488l	1.673743305708232l	0.3033112582781457
8.0	1.753296219559402l	0.32940656751582975	1.324028843327572l	0.3033112582781457
9.0	1.955417609537729	0.33323516418789S7	1.598862588405609l	0.36026490066225164
10.0	1.827422976388526l	0.326019731998233	1.221920660922401l	0.36026490066225164

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.1956403092585408	0.33397143277867763	1.145860444872003	0.33642384105960266
2.0	1.1765376763293263	0.329112060079517	1.102393123350645l	0.36026490066225164
3.0	1.1728090867838954	0.33838904432336l2	1.285807510426l7	0.3033112582781457
4.0	1.188102588355892l	0.32867029892504784	1.0968153250844854	0.36026490066225164
5.0	1.175737433214491	0.3257252245619202	1.1322262048721314	0.3033112582781457
6.0	1.175263506012614l	0.34133411866864968	1.192388908486617l	0.3033112582781457
7.0	1.183031950597909	0.34221764099543S1	1.484535244891518l	0.33642384105960266
8.0	1.1956607621465891	0.32675600058901l9	1.263900477007815l	0.33642384105960266
9.0	1.190708234537616S	0.32513620968929463	1.161862890343917	0.36026490066225164
10.0	1.1874305328575827	0.32616698571638936	1.1272370093747188	0.3033112582781457

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.0139527979961764	0.42173464879988l2	1.1105263697473626	0.3033112582781457
2.0	1.1092461205764l3	0.33029008982476l1	1.1290359070426539	0.3033112582781457
3.0	1.1081387211773785	0.33397143277867763	1.0963501704386583	0.36026490066225164
4.0	1.1085024470434874	0.33029008982476l1	1.1010686999873112	0.33642384105960266
5.0	1.1067878723284943	0.33146811957001915	1.1420371475972628	0.33642384105960266
6.0	1.110431840057508	0.3276395228979532	1.1030119795548288	0.36026490066225164
7.0	1.1101324360277964	0.33853629801525256	1.0993798331210487	0.36026490066225164
8.0	1.1087353507537303	0.32071859814460313	1.1078167714570697	0.3033112582781457
9.0	1.1061855739923754	0.331909880724488l	1.1079965076948468	0.36026490066225164
10.0	1.1080804526174026	0.318657046090413l	1.1085067836861862	0.3033112582781457

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.29241990351454916	0.8892652039463996	0.22769951031200195	0.9139072847682119
2.0	0.14981994009110527	0.9458106317184509	0.21718599841390784	0.9231788079470199
3.0	0.06588042626705l1	0.9782064497128552	0.275221111446521	0.9046357615894O4
4.0	0.023002817834615302	0.9939625975555882	0.38002995625689723	0.9006622516556292
5.0	0.024971656783761453	0.9924900603740244	0.3803325330280993	0.9033112582781457
6.0	0.019249199708258388	0.9932263289648063	0.392570141426710l	0.9139072847682119
7.0	0.011536547418319575	0.996907671918716	0.3004194450239945	0.9205298013245033
8.0	0.00372021409090020l	0.9992637314092181	0.3680726475276874	0.9099337748344437
9.0	0.016750206996983B3	0.9954151347371521	0.3163069358254832	0.9139072847682119
10.0	0.017290736924381368	0.994257104991901	0.3675009124708595	0.9033112582781457

(e)

Gambar D.6 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 10, *batch* 8 dan *learning rate* 10e-1 - 10e-5 pada model IndoBERT.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	14.64018185835143	0.33161537328817553	23.99033623745567	0.33642384105960266
2.0	18.373470554503452	0.3280812840524223	5.09890880333374985	0.36026490066225164
3.0	17.82772564059573	0.33941982035046386	23.427005336159155	0.36026490066225164
4.0	16.879379817889907	0.3257252245619202	7.116368865966 7965	0.36026490066225164
5.0	16.447852630076053	0.33765277573258723	23.797810243305406	0.33642384105960266
6.0	17.046341230085797	0.3165954940362244	34.951427349291 35	0.33642384105960266
7.0	17.051500860527 07	0.342659402149904 26	25.475427497060675	0.33642384105960266
8.0	17.48422052287381 6	0.34074510381387 13	9.851788189536647	0.33642384105960266
9.0	16.482844505138758	0.34045059637755853	8.41783248499 82	0.3033112582781457
10.0	17.545815581146 48	0.33691650714180 53	10.570461835359271	0.33642384105960266
11.0	16.561902617256 83	0.33397143277867763	18.598116784346733	0.3033112582781457
12.0	17.254941808882535	0.3327934030334266	10.431504168008503	0.33642384105960266
13.0	16.191246032714844	0.32940656751582975	22.676652898826 52	0.3033112582781457
14.0	16.479555011848678	0.33676925342364894	10.317038970244559	0.33642384105960266
15.0	16.27137155141089	0.34207038727727873	19.159854868838 66	0.3033112582781457

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.8268233421132478	0.33308791046973935	1.486053772976524	0.33642384105960266
2.0	1.804591125748323 1	0.341481372046532	1.970612689695860 2	0.33642384105960266
3.0	1.858562065355909 8	0.32984832867029895	1.204765306990573 28	0.36026490066225164
4.0	1.737481330603677 2	0.33824179060521276	2.953816716294539 5	0.3033112582781457
5.0	1.830714480650860 2	0.33382417906052125	2.312904911919644	0.3033112582781457
6.0	1.883393170836395 8	0.33411868649683407	1.843894328569111 2	0.36026490066225164
7.0	2.041097790599571 3	0.33956707406862024	3.608059410045021 4	0.3033112582781457
8.0	1.777823694392565	0.34030334265940215	1.653481289587522 8	0.36026490066225164
9.0	1.871163503308769	0.34162862612280 96	1.204121627305683 4	0.33642384105960266
10.0	1.853221759919704 7	0.3436901781761999	1.652693084666603 5	0.3033112582781457
11.0	1.792033224630973 6	0.33161537328817553	4.147381652028937	0.33642384105960266
12.0	1.882028109474092 3	0.3333824179060521	1.110363175367054 2	0.36026490066225164
13.0	1.951537071114013 2	0.34045059637755853	3.924931602728994	0.33642384105960266
14.0	1.823122622197311 8	0.3308791046973936	2.268789434432983 3	0.3033112582781457
15.0	1.828930934059605 8	0.3304373435429245	3.187378780465377	0.33642384105960266

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.223454831064941	0.32513620968929463	1.1030518851782147	0.36026490066225164
2.0	1.183803117808801 3	0.32631423943454574	1.277053728856538 5	0.33642384105960266
3.0	1.175739704088271 8	0.32513620968929463	1.370394491521935 7	0.33642384105960266
4.0	1.191678904048022 9	0.33809453688705 64	1.37860692551261 5	0.36026490066225164
5.0	1.172520961511542 4	0.3320571344426447	1.237215944340354 5	0.33642384105960266
6.0	1.176426593490708 3	0.33029008986247681	1.131848709834249 3	0.33642384105960266
7.0	1.182801433109422 8	0.33190988072448 83	1.125817900582363 6	0.36026490066225164
8.0	1.176337658867538 3	0.33294065675158296	1.095779708761917 9	0.33642384105960266
9.0	1.172384955225900 7	0.33132086585186277	1.51999274941494 59	0.33642384105960266
10.0	1.175737519778127	0.32822853777057 87	1.213411828718687 5	0.3033112582781457
11.0	1.188561141280319 2	0.34162862612280 96	1.287867015913913 2	0.3033112582781457
12.0	1.188742989038381	0.33441319393314684	1.155194703528755 5	0.33642384105960266
13.0	1.184706464883716 7	0.33397143277867763	1.144642644179494 8	0.36026490066225164
14.0	1.168078432445391 2	0.33809453688705 64	1.107862689620 57	0.33642384105960266
15.0	1.179597589166481 8	0.32925931379767337	1.126278394146969 4	0.3033112582781457

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.0498732958160104	0.39022235311441617	1.1158471471384952	0.3033112582781457
2.0	1.05457429919563	0.37417169783537035	0.9259651645233756	0.5046357615894039
3.0	1.073834608525073	0.36842880282727136	1.086368634826258 7	0.3509933774834437
4.0	1.100192540596174 6	0.34074510381387 13	1.089613386831785 4	0.3033112582781457
5.0	1.103859265996373 5	0.33397143277867763	1.096114712639859	0.36026490066225164
6.0	1.103007180390285	0.32808128405242 23	1.109253848226447	0.3033112582781457
7.0	1.101960466452846 8	0.34089235753202 77	1.139273091366416 6	0.3033112582781457
8.0	1.101780116347457 9	0.33544396696024 15	1.099404503169812 8	0.34039735099337 75
9.0	1.100459369037682	0.34899131203062 88	1.099327231708325 8	0.3033112582781457
10.0	1.100424345446 7	0.34383743189515537	1.104708375428852 3	0.3033112582781457
11.0	1.102035106281509 7	0.33426594021499045	1.10298435876244	0.33774834437086093
12.0	1.101297524287085 7	0.3220438816080106	1.10214013174960 5	0.3033112582781457
13.0	1.099753920756745 5	0.3333824179060521	1.145236042926186	0.33774834437086093
14.0	1.102518720185939 2	0.33544396996024 15	1.12967130510430 6	0.3033112582781457
15.0	1.102268791240854	0.32233838904432 34	1.122430881701017 8	0.33774834437086093

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.28447734211539705	0.8898542188190252	0.23185599918330185	0.9099337748344 37
2.0	0.14285089451398972	0.9484611986452658	0.23468527235825987	0.9033112582781457
3.0	0.0630772150878808 8	0.9796789869944191	0.31966396335169 28	0.8913907284768212
4.0	0.026210219854556432	0.9924900603740244	0.40006933642649 34	0.8940397350993378
5.0	0.024028882913231205	0.9916065380650861	0.44263877594892526	0.8980132450331125
6.0	0.019953602527910504	0.9938153438374319	0.419557716897505	0.8980132450331125
7.0	0.013289057372328638	0.9963186570460905	0.39734472831202 62	0.9125827814569536
8.0	0.006373852731134014	0.9979384479458107	0.39558694326482 7	0.9152317880794701
9.0	0.007781829947164338	0.9980857016663967	0.47067828155926883	0.9019867549668874
10.0	0.018403996221171115	0.994257104991901	0.41398874545886527	0.9046357615894404
11.0	0.016910484185354687	0.9944861198645265	0.47171685491209 1 03	0.9006622516556292
12.0	0.006084136860101312	0.9974966867913415	0.54808365470196 71	0.8927152317880794
13.0	0.012153180813966623	0.9967604182005596	0.45054704493369477	0.9046357615894404
14.0	0.007948531931266805	0.9980857016663967	0.69543309998101 13	0.8953642384105960
15.0	0.004242561071876242 5	0.9986747165365926	0.59236960912278 04	0.9033112582781457

(e)

Gambar D.7 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 15, *batch* 2 dan *learning rate* 10e-1 - 10e-5 pada model IndoBERT.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	14.736292391839942	0.34045059637755853	10.955816459655761	0.3033112582781457
2.0	18.148532668573978	0.33824179060521276	25.375493320665586	0.36026490066225164
3.0	17.1690925097566	0.34045059637755853	4.448891494148656	0.36026490066225164
4.0	17.261185962053013	0.32601971199823	39.29673963304701	0.33642384105960266
5.0	20.714383576665093	0.3304373435429245	6.586062396200008	0.3033112582781457
6.0	18.023162176738218	0.3257252245619202	6.3518964817649444	0.36026490066225164
7.0	16.295262668126025	0.3398615815049333	3.204483520357232	0.33642384105960266
8.0	16.440671157219104	0.3273450154616404	17.07749213419462 5	0.3033112582781457
9.0	16.27903078729 89	0.3320571344426447	16.432433941489773	0.36026490066225164
10.0	17.835609779477 36	0.33426594021499045	13.234935394086335	0.3033112582781457
11.0	16.120505618332974	0.3333824179060521	3.8813740316190217	0.36026490066225164
12.0	17.555577630640 06	0.33588573111471065	31.054882511339688	0.3033112582781457
13.0	16.690164792734265	0.32484170225298187	5.491639898952685	0.33642384105960266
14.0	14.804810304802134	0.34648798882197023	7.2229971860589446	0.33642384105960266
15.0	18.328608457696 73	0.3422176409954351	7.069616300181338	0.33642384105960266

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.9500489444905172	0.34766602856722134	1.1111132998215525	0.33642384105960266
2.0	1.9082594984140275	0.32410543366219996	1.3174826785137779	0.3033112582781457
3.0	1.7185555192410455	0.3289648063613606	1.609089380188992	0.33642384105960266
4.0	2.026132848504294 4	0.32690325430717126	1.7209472794281808	0.33642384105960266
5.0	1.8325793056521735	0.3392725666323075	1.2644277384406641	0.36026490066225164
6.0	1.9281593408124045	0.3238109262258872	1.8434071390252365	0.33642384105960266
7.0	1.7099839469288487	0.33824179060521276	1.3721666097640992	0.36026490066225164
8.0	1.7747900120922757	0.3270505080252765	1.1285811135643407	0.36026490066225164
9.0	1.9190586767432547	0.334854955087616	1.5995752943 18952	0.36026490066225164
10.0	1.8033303881351461	0.3207185981 4460313	1.4002887205073709	0.3033112582781457
11.0	1.9483068539762103	0.3276395228979532	1.1433051943778991	0.3033112582781457
12.0	1.7919364172802938	0.3333824179060521	1.5207635239550943	0.36026490066225164
13.0	1.7926695011248999	0.3336769253423648 7	1.2683078169822692	0.33642384105960266
14.0	1.9718899714932705	0.3330879104697393 5	1.8094674185702675	0.36026490066225164
15.0	1.7532246666044453	0.3388308054778383 4	1.4134445146510475	0.36026490066225164

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.2036669717660642	0.32881755264320 42	1.107158076763153	0.36026490066225164
2.0	1.1857822692576792	0.32484170225298187	1.1640895843505858	0.33642384105960266
3.0	1.1752698567506141	0.3216021204535415	1.1322904116229007	0.3033112582781457
4.0	1.1817650585067847	0.3311736121337064	1.2803836665655437	0.33642384105960266
5.0	1.178984636450565 1	0.3302900898247681	1.1440886271627326	0.36026490066225164
6.0	1.1793263795378632	0.34648799882197023	1.1113920086308529	0.3033112582781457
7.0	1.170674029522706	0.3410396112501840 6	1.195443037936562	0.36026490066225164
8.0	1.1678237488188368	0.334854955087616	1.0989026935477006	0.33642384105960266
9.0	1.1725978951010463	0.3366219997054925 6	1.333239478186557	0.3033112582781457
10.0	1.1926779069524 21	0.3417758798409659 7	1.102815193878977	0.3033112582781457
11.0	1.1729290655279 89	0.3208658518627595	1.2965736006435595	0.36026490066225164
12.0	1.1586910353045091	0.3376527757325872 3	1.1100160542287325	0.33642384105960266
13.0	1.1812698072342485	0.33824179060521276	1.2988855575260363	0.3033112582781457
14.0	1.190834238475849	0.3372110145781181	1.1590067443094756	0.3033112582781457
15.0	1.184377221603416	0.3378000294507436	1.1390978750429654	0.33642384105960266

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.6365848434836691	0.6940067736710352	0.7048039084986637	0.6013245033112583
2.0	0.7760448379988384	0.5467530555146517	1.125567536605032	0.3033112582781457
3.0	1.1086246072894974	0.3273450154616404	1.0967346956855373	0.36026490066225164
4.0	1.1064866096027046	0.3305845972610808 6	1.1158763258080733	0.3033112582781457
5.0	1.1088503875777354	0.3239581799440436	1.1019884485947458	0.3033112582781457
6.0	1.1085963923883382	0.3448682079222500 4	1.1072537899017334	0.3033112582781457
7.0	1.1070326650240958	0.3389780591959947	1.0982739375257286	0.36026490066225164
8.0	1.1068042202888866	0.3388635551759681 96	1.0996496401335063	0.33642384105960266
9.0	1.1092547278789334	0.3313208658596277	1.1019719737807064	0.33642384105960266
10.0	1.1087899277682 66	0.3276395228979532	1.1067622059269955	0.33642384105960266
11.0	1.1072627831123 18	0.3286702989250478 4	1.1088043413664166	0.3033112582781457
12.0	1.1047810962680 37	0.3432484170225298 4	1.1041232510016905	0.3033112582781457
13.0	1.1069796287550 1	0.3350022088057723 6	1.0967692174409565	0.36026490066225164
14.0	1.1096228396232615	0.3273450154616404	1.0968613586927716	0.36026490066225164
15.0	1.1091699497017338	0.3338241790652125	1.1037342711498863	0.3033112582781457

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.2870677645972 0007	0.8897069651008688	0.2599086465706 1663	0.8860927152317881
2.0	0.1519745518387 6013	0.9466941540273892	0.2445094514049982	0.9125827814569536
3.0	0.0667154173358772 4	0.9779119422765424	0.3692844415153681	0.8966887417218543
4.0	0.0315977924999625 15	0.9907230157561479	0.3816393324198495 4	0.8847682119205298
5.0	0.0149173453584649 61	0.9957296421734649	0.404939022315758	0.9046357615894 04
6.0	0.0174256025036423 7	0.9944043587100574	0.3567343832934153	0.9046357615894 04
7.0	0.0224475528546022 1	0.9936680901192755	0.3336159516738 63	0.9086092715231788
8.0	0.0128018384403699 97	0.9957296421734649	0.4053760055547555 6	0.9046357615894 04
9.0	0.0122484596050495 24	0.9967604182005596	0.5067829203179204	0.8953642384105 96
10.0	0.0124945485027301 54	0.9955823884553084	0.3625249465539941 4	0.9112582781456954
11.0	0.0122916425987738 05	0.996907671918716	0.4429048003561451 6	0.8980132450331125
12.0	0.0130414513486056 43	0.9958768958916213	0.4095925150132787	0.9059602649006623
13.0	0.0089758423990849 05	0.9973494330731851	0.5458005501671179	0.8900662251655629
14.0	0.0033953290944199 1	0.9991164776910617	0.7161466650628043	0.8794701986754967
15.0	0.0076404226004763 49	0.9982329553821234	0.4800410049136477	0.8966887417218543

(e)

Gambar D.8 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 15, *batch* 4 dan *learning rate* 10e-1 - 10e-5 pada model IndoBERT.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	15.185755321639727	0.35046384921219926	23.7884506526746626	0.36026490066225164
2.0	17.649509654800518	0.32734501546164044	25.068975900348864	0.36026490066225164
3.0	17.657746489463623	0.34148137240465332	14.843561606658133	0.36026490066225164
4.0	17.229035224032767	0.33632749226917984	8.859344502489823	0.30331125827814577
5.0	18.125993121358334	0.32999558238845533	24.18862284610146	0.36026490066225164
6.0	17.239278153971593	0.33780002945074364	23.659092340971295	0.30331125827814577
7.0	18.543364783338672	0.33632749226917984	11.274243214255884	0.33642384105960266
8.0	17.350062408211375	0.33691650734180534	24.872179232145612	0.30331125827814577
9.0	17.186779006560926	0.32896480636136064	29.401423384013928	0.36026490066225164
10.0	15.579446364558347	0.33264614931527024	10.684706050471256	0.30331125827814577
11.0	15.427813231910552	0.34575173023118834	6.321436237034045	0.36026490066225164
12.0	15.533288620526434	0.33750552201443085	15.084940057051814	0.30331125827814577
13.0	19.397421803013877	0.329112060079517	8.429256583514967	0.33642384105960266
14.0	17.273915902394428	0.33279340303342664	5.205911267431158	0.33642384105960266
15.0	16.925270031703235	0.33323516418789574	24.076526541458932	0.36026490066225164

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.9044205412988247	0.33411868649683407	1.6100686782284788	0.36026490066225164
2.0	1.8448307965613366	0.3320571344426447	1.2258059827904952	0.30331125827814577
3.0	1.777961686762539	0.32410543662199966	2.25670065126921	0.30331125827814577
4.0	1.7769341737698892	0.3273450154616404	1.9306098737217474	0.30331125827814577
5.0	1.7598071211007795	0.33132086585186277	2.190261899170123	0.36026490066225164
6.0	1.9241898348390425	0.3400088352230894	1.2786940511904266	0.36026490066225164
7.0	1.8334902947586473	0.33058459726108086	2.490039400050515	0.33642384105960266
8.0	1.890167815165399	0.33573847739655427	1.5681144639065392	0.36026490066225164
9.0	1.8504447979837 2	0.33308791046973935	1.9434039078260723	0.36026490066225164
10.0	1.8264788046602085	0.33441319393314684	2.385559116539202	0.36026490066225164
11.0	1.811680273186893 7	0.3433956707406862	1.22238242437965	0.36026490066225164
12.0	1.6665362680267248	0.3320571344426447	1.3632698027711165	0.30331125827814577
13.0	1.7811519727900678	0.338536298041525 6	1.1631120794697811	0.30331125827814577
14.0	1.8891639291046647	0.34045059637755853	2.2734910099129926	0.33642384105960266
15.0	1.9395605064533625	0.33603298483286703	2.5776474275087056	0.36026490066225164

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.1843968141205319	0.3254307171256074	1.1431774396645396	0.36026490066225164
2.0	1.1855946205670478	0.32940656751582975	1.1112068979363692	0.36026490066225164
3.0	1.1944970196843 57	0.3327934030334266	1.2754346245213 56	0.30331125827814577
4.0	1.1692032116883213	0.3343542924458842 6	1.2282220081279152	0.33642384105960266
5.0	1.1777841612363171	0.3355912236783979	1.3214050851370158	0.30331125827814577
6.0	1.1903674543535752	0.33470770136945 96	1.1790579193516781	0.33642384105960266
7.0	1.1713207510110206	0.3180680312778826	1.2040215197362398	0.30331125827814577
8.0	1.185851816855836	0.3379472831689	1.1243983507156372	0.30331125827814577
9.0	1.1829253680854 86	0.3311736121337064	1.173286045225043	0.30331125827814577
10.0	1.1696460973668856	0.33765277573258723	1.1528492375424033	0.33642384105960266
11.0	1.1705454398380994	0.33824179060521276	1.109830473598681	0.33642384105960266
12.0	1.1777696151755865	0.33308791046973935	1.096744782252663	0.36026490066225164
13.0	1.1902656232229532	0.32322191135326167	1.1177098951841655	0.33642384105960266
14.0	1.1772162358948985	0.3379472831689	1.1299773454666138	0.36026490066225164
15.0	1.1873654553971666	0.33426594021499045	1.1267781339193645	0.36026490066225164

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.6683142985600113	0.706228832278015	1.1424125796870181	0.30331125827814577
2.0	1.1079283486547122	0.33941982035046386	1.1095763984479403	0.30331125827814577
3.0	1.1070013216864516	0.33735826829627447	1.1031867868021914	0.30331125827814577
4.0	1.10772245651982	0.33573847739655427	1.098273629891245	0.33642384105960266
5.0	1.1085996618680876	0.3302900898247681	1.096258733147069	0.36026490066225164
6.0	1.1050506147815988	0.33868355175968196	1.101021601024427	0.30331125827814577
7.0	1.1066626545537628	0.329112060079517	1.1760147195113333	0.33642384105960266
8.0	1.1063364275914 34	0.34103961125018406	1.118956974933022	0.30331125827814577
9.0	1.1069261074346985	0.33941982035046386	1.1123806476593017	0.30331125827814577
10.0	1.1072366637110 85	0.3413341186864968	1.108934224906 7207	0.36026490066225164
11.0	1.1099808553784418	0.3380945368870564	1.0961589788135728	0.36026490066225164
12.0	1.105657534548756	0.33662199970549256	1.1062099983817653	0.36026490066225164
13.0	1.1064786738304704	0.338536298041525 6	1.106942760316949	0.33642384105960266
14.0	1.1069653086162428	0.33367692534236487	1.0986790355883147	0.30331125827814577
15.0	1.1075202028658702	0.3319098807244883	1.1097110158518741	0.33642384105960266

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.29867499385213 37	0.8836695626564571	0.24516309188482793	0.8900662251655629
2.0	0.15349752612993917	0.946988661463702	0.21658690226705452	0.9059602649006623
3.0	0.06936087568192628	0.9782064497128552	0.2707109853809111	0.9086092715231788
4.0	0.03373603004745 41	0.9904285083398351	0.3318819088003549	0.8993377483443709
5.0	0.020102860256236976	0.9939625975555882	0.4120297283546901	0.8993377483443709
6.0	0.025993372418266943	0.9917537917832425	0.42948179831881517	0.8940397350993378
7.0	0.016956711920113735	0.9939625975555882	0.42338234402092273	0.8980132450331125
8.0	0.008171797835285769	0.9973494330731851	0.43405067248478235	0.9072847682119205
9.0	0.010367448918589416	0.9967604182005596	0.5318641480919293	0.8860927152317881
10.0	0.008774226276539319	0.9979384479458107	0.5674331105403039	0.8966887417218543
11.0	0.018128296354957236	0.9952878810189957	0.4808411068540361	0.8927152317880794
12.0	0.013215692151122652	0.9966131644824032	0.6061880589681862	0.8913907284768212
13.0	0.007214244753927 5695	0.9970549256368724	0.4596206931357759	0.8980132450331125
14.0	0.007106585203343892	0.9982329553821234	0.5542045042509256	0.895364238410596
15.0	0.003678544689353797	0.9989692239729053	0.6058264640956431	0.8927152317880794

(e)

Gambar D.9 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 15, *batch* 8 dan *learning rate* 10e-1 - 10e-5 pada model IndoBERT.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	14.3119059290355516	0.33456004476513032	3.41946496336083650	0.33642384105960266
2.0	16.801025927207213	0.33249889559711138	53.555261551706415	0.30331125827814570
3.0	17.770882120333183	0.33294065675158296	25.185304280331126	0.30331125827814570
4.0	18.970578988872795	0.33676925342364894	22.005160346784090	0.33642384105960266
5.0	17.818791216899704	0.32955382123398613	27.815481865523786	0.30331125827814570
6.0	18.242864896851177	0.32940656751582975	16.281937860187732	0.36026490066225164
7.0	16.047601682382982	0.3297010749521425	30.637150222376775	0.30331125827814570
8.0	17.7778694113657250	0.32778677661610955	13.785650850597180	0.36026490066225164
9.0	15.383268357657151	0.33588573111471065	18.024008690683466	0.36026490066225164
10.0	18.900192554272245	0.33411868649683407	27.610739346554404	0.30331125827814570
11.0	15.223339202757860	0.32660874687085850	15.876194928821764	0.36026490066225164
12.0	19.069183630010965	0.34148137240465532	6.9440952338670430	0.33642384105960266
13.0	16.347461063673695	0.34251214843174790	32.85300965560110	0.30331125827814570
14.0	17.220366630490924	0.33588573111471065	21.234147734391062	0.33642384105960266
15.0	15.188685410295134	0.33161537328817553	14.587373091045178	0.30331125827814570
16.0	15.355985600865491	0.3326461493152702	4.5208564708107400	0.30331125827814570
17.0	17.330744112408485	0.34251214843174790	24.015679931640626	0.33642384105960266
18.0	16.29053389183624	0.33308791046973935	32.402438705845880	0.33642384105960266
19.0	17.566434656422327	0.33721101457811810	27.678053253575374	0.30331125827814570
20.0	19.504865614839943	0.33897805919599470	3.153359628351111	0.36026490066225164

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.9075964186581902	0.33647474599873362	1.3548069408065395	0.36026490066225164
2.0	1.883272589025284	0.33029008862476681	2.1119778794991427	0.30331125827814570
3.0	1.818743169097091 7	0.34295390958621710	2.6641249418258670	0.36026490066225164
4.0	1.940416669536676	0.31821528493594464	2.3168014425980417	0.30331125827814570
5.0	1.7704639105900720	0.34118686496834044	1.1412461745111566	0.36026490066225164
6.0	1.8227809826252177	0.34015608894124577	1.3498285538271855	0.33642384105960266
7.0	1.7195741691493875	0.33868355175968196	1.7143404132441470	0.36026490066225164
8.0	1.8941428328571388	0.32439994109851270	1.5671062758094385	0.30331125827814570
9.0	1.9818774001547810	0.32145486673538510	1.3453531786015158	0.36026490066225164
10.0	1.8564238486848816	0.32484170225298187	1.8335574055972852	0.33642384105960266
11.0	1.7764412036913724	0.33161537328817553	2.1629361472631756	0.30331125827814570
12.0	1.8351994253019281	0.32042409070829037	2.7429761648178100	0.30331125827814570
13.0	1.7066560447988297	0.33573847739655427	1.1092101730798420	0.36026490066225164
14.0	1.7903851456720780	0.33721101457811810	3.4866336784864727	0.30331125827814570
15.0	1.8460250030698429	0.33190988072448830	4.1911387744702795	0.30331125827814570
16.0	1.7939719255175555	0.33367692534236487	1.4986145759883680	0.30331125827814570
17.0	1.8425878583331832	0.33323516418789570	2.8186697809319745	0.30331125827814570
18.0	1.6582086101718450	0.34221764099543510	1.3592389163218046	0.33642384105960266
19.0	1.8901269503280047	0.34074510381387130	1.7918748993622629	0.30331125827814570
20.0	1.7452880588521384	0.33691650714180530	1.4350756513445	0.33642384105960266

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.1889388125345950	0.33603298483286703	1.2056046278853165	0.36026490066225164
2.0	1.1833727703077632	0.32572522456192020	1.1496083127824883	0.36026490066225164
3.0	1.1909499955031504	0.32498895597113825	1.2098278422104685	0.36026490066225164
4.0	1.1872661590435760	0.33132086585186277	1.3138110142005117	0.33642384105960266
5.0	1.1713991477576526	0.33161537328817553	1.1471829590044524	0.30331125827814570
6.0	1.1966331611671374	0.32705050802532765	1.1600037035189177	0.30331125827814570
7.0	1.1756460406895538	0.33470770136945960	1.1568890797464447	0.30331125827814570
8.0	1.1852744956039007	0.33765277573258723	1.1583782936397350	0.30331125827814570
9.0	1.1880604141572827	0.33559122367839790	1.1806145354332113	0.30331125827814570
10.0	1.1792119603836635	0.32940656751582975	1.0981916465257344	0.36026490066225164
11.0	1.1722422536326522	0.33573847739655427	1.2371883103722021	0.36026490066225164
12.0	1.1839842494441146	0.32778677661610955	1.3572908025038870	0.33642384105960266
13.0	1.1860960358304045	0.33485495087616	1.1273404071205542	0.30331125827814570
14.0	1.1879247464195720	0.32940656751582975	1.1022777030342503	0.36026490066225164
15.0	1.1760919640286090	0.33220438816080106	1.1017407894134520	0.36026490066225164
16.0	1.1799691078660064	0.33824179060521276	1.2217020563820582	0.33642384105960266
17.0	1.1946699791999251	0.32925931379767337	1.1434273167660363	0.33642384105960266
18.0	1.1738169203096622	0.33220438816080106	1.1479601383209228	0.30331125827814570
19.0	1.1975263859133276	0.33352967162420850	1.1026058303682427	0.36026490066225164
20.0	1.1714538205217557	0.32572522456192020	1.2095791653582924	0.30331125827814570

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.8218306806837993	0.58901487262553380	1.1201058155611943	0.30463576158940400
2.0	1.1056086150720910	0.33279340303342660	1.1127183788701107	0.33642384105960266
3.0	1.1075096653403607	0.32101310558091590	1.1019651764317562	0.33642384105960266
4.0	1.1074750344098950	0.33883080547783834	1.1210354685783386	0.33642384105960266
5.0	1.1063066939302270	0.34339567074068620	1.1048977161708630	0.30463576158940400
6.0	1.1085550584746346	0.32631423943454574	1.0967587218224376	0.33642384105960266
7.0	1.1061054550295584	0.33500220880577236	1.1076484893497667	0.30463576158940400
8.0	1.1076668934084978	0.33426594021499045	1.0946851291154560	0.36158940397350990
9.0	1.1050524614725012	0.33691650714180530	1.1034977643113388	0.30463576158940400
10.0	1.1033857467598573	0.34825504343984687	1.1184048953809236	0.33642384105960266
11.0	1.1062931911965002	0.33588573111471065	1.0992882665834929	0.30463576158940400
12.0	1.1048931701304072	0.34192313355912235	1.1038405481137727	0.36158940397350990
13.0	1.1069861319798042	0.33559122367839790	1.1107460656918773	0.36158940397350990
14.0	1.1074658175239294	0.33735826829627447	1.1080640441492984	0.30331125827814570
15.0	1.1034675538890915	0.34928581946694154	1.1007528945019371	0.33642384105960266
16.0	1.1047770691985095	0.34162862612280960	1.0984505803961502	0.36026490066225164
17.0	1.1055698910085276	0.33190988072448830	1.1041410690430491	0.33642384105960266
18.0	1.1056184593864549	0.33573847739655427	1.0982268747530486	0.33642384105960266
19.0	1.109372824114540	0.31718450890884997	1.1213697295439870	0.30331125827814570
20.0	1.1063115828450072	0.33824179060521276	1.1036379600826063	0.30331125827814570

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.2886826855424480	0.88720365189222103	0.22432823461529455	0.90596026490066230
2.0	0.1460796697177673	0.94669415402738920	0.26875324052219330	0.88741721854304630
3.0	0.0624398236389620 76	0.98026800176704460	0.27934888778867 1	0.90463576158940400
4.0	0.0339489994272444 35	0.98792519511117660	0.39641984731669680	0.89801324503311250
5.0	0.0182981406024952 56	0.99337358268289627	0.35079443417029993	0.89801324503311250
6.0	0.0106649509021013 84	0.99661316448240320	0.45422108679593320	0.89801324503311250
7.0	0.0138999358416648 5	0.99602414960977770	0.35722691212891060	0.89668874171285430
8.0	0.0200778555991369 3	0.99410985127374460	0.39152007653151240	0.89801324503311250
9.0	0.0092387679104237720	0.99911647769106170	0.50674029152210810	0.89536423841059600
10.0	0.0025229763680813533	0.99926373714092181	0.53144064837198180	0.90331125827814570
11.0	0.0031410517004021054	0.99911647769106170	0.54788771572026520	0.90331125827814570
12.0	0.0211139553039706575	0.99337358268289627	0.59231069961510670	0.90331125827814570
13.0	0.0123671321864835660	0.99617140332793410	0.42983843895666435	0.90860927152317880
14.0	0.0062222247222721306	0.99793844794581070	0.52910887835881260	0.90066225165562920
15.0	0.0029524213676673052	0.99941098512737450	0.5356902986150280	0.91390728476821190
16.0	0.0010208013099004985	0.99955823884555309	0.5712060712176026	0.91125827814569540
17.0	0.0003745717360923018 3	0.99970549256368720	0.6086798099776436	0.91258278145695360
18.0	0.0006031987864604307	0.99985274628184360	0.6097942723176522	0.91655629139072850
19.0	0.0274225166903959080	0.99234280665586800	0.4907144241555727670	0.90198675496688740
20.0	0.0182488221797263360	0.99366809011927550	0.4325321219844658	0.89801324503311250

(e)

Gambar D.10 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 20, *batch* 2 dan *learning rate* 10e-1 - 10e-5 pada model IndoBERT.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	15.2075855699666948	0.32484170225298187	10.381844927135267	0.30331125827814570
2.0	19.197723698981097	0.33146811957001915	16.65349873994526	0.36026490066225164
3.0	16.274223337395313	0.34045059637755853	7.8095145313336332	0.36026490066225164
4.0	16.877066446065648	0.33765277573258723	9.114483251069721	0.30331125827814570
5.0	20.663890794393453	0.33190988072448883	6.033046106288308	0.33642384105960266
6.0	17.364110212303583	0.33352967162420850	19.952122688293457	0.33642384105960266
7.0	17.376483848382083	0.33205713444264470	12.386017218389009	0.30331125827814570
8.0	19.445449434161786	0.33411868649683407	25.575359409733820	0.30331125827814570
9.0	17.072121012337217	0.33647474598733620	31.457472720899080	0.36026490066225164
10.0	16.129429459782454	0.32631423943454574	3.1646458318358897	0.36026490066225164
11.0	17.296972973958905	0.34501546164040640	4.0521128742318410	0.36026490066225164
12.0	16.039621988230234	0.33132086585186277	15.138434480365953	0.33642384105960266
13.0	15.001249694501272	0.33514968252392874	15.55285555719476	0.30331125827814570
14.0	17.181581071324570	0.33500220880577236	18.150244476920680	0.36026490066225164
15.0	18.160322446103943	0.33529671624208510	10.487875566984478	0.33642384105960266
16.0	15.823396080058371	0.32999558238845533	10.472835139224404	0.30331125827814570
17.0	16.208114918395964	0.32366367250773080	8.462901961176020	0.33642384105960266
18.0	14.367247896003498	0.33190988072448830	9.858664708388480	0.30331125827814570
19.0	17.203230104857816	0.33411868649683407	15.027199815448961	0.30331125827814570
20.0	16.960376572693196	0.33338241790605210	9.496679757770739	0.30331125827814570

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.8948849769236764	0.33721014578181181	1.2717655558335155	0.30331125827814570
2.0	1.8843513785458847	0.33721014578181181	2.0255645570002105	0.36026490066225164
3.0	1.760703186194102	0.32719776174348403	1.798197028511448	0.30331125827814570
4.0	1.686668870305846	0.32336916507141805	1.918291817213596	0.33642384105960266
5.0	1.860198105603140	0.32970107495214250	1.731223767682156	0.30331125827814570
6.0	1.795527250101204	0.33338241790605210	1.657113769179896	0.33642384105960266
7.0	1.833869846430206	0.32970107495214250	2.356622766193590	0.33642384105960266
8.0	1.732383229274234	0.33087910469739360	1.367469382286071	0.30331125827814570
9.0	1.879388380660875	0.33456044765133032	1.274659749081260	0.36026490066225164
10.0	1.946535630546889	0.32822853770705787	2.559528393494455	0.33642384105960266
11.0	1.747264602229273	0.34413193933146813	1.447129593974417	0.36026490066225164
12.0	1.695751180136072 69	0.33308791046973935	1.190209243172093 4	0.30331125827814570
13.0	1.857259302734626 7	0.34501546164040640	1.262804415351466 1	0.36026490066225164
14.0	1.924584350751623	0.33220438816080106	3.952939712373834	0.33642384105960266
15.0	1.788209497418531	0.33220438816080106	1.132477345592097 3	0.36026490066225164
16.0	1.795789730209096	0.33588573111471065	1.903109500282689 2	0.36026490066225164
17.0	1.730602074883992 3	0.33956707406862024	1.584981159787429	0.36026490066225164
18.0	1.756806984596454 7	0.32439994109851 27	1.694638703371349	0.33642384105960266
19.0	1.769020792592681	0.33352967162420850	1.333020987008747 3	0.30331125827814570
20.0	1.839170546638389 9	0.33382417906052125	1.919597840309143 2	0.36026490066225164

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.1931287702458204	0.33411868649683407	1.1308715468958805	0.30331125827814570
2.0	1.1870026155972790	0.33853629804152560	1.2437432282849360	0.36026490066225164
3.0	1.1735972300856359	0.33603298483286703	1.2536250089344225	0.33642384105960266
4.0	1.1850307684398148	0.32498895597113825	1.1261874205187747	0.33642384105960266
5.0	1.1833658681741452	0.33102635841555	1.1004612238783584	0.36026490066225164
6.0	1.1908799134746227	0.33029008982474681	1.1752624499176403	0.36026490066225164
7.0	1.1694266292737145	0.33235164187895744	1.3476904360871567	0.30331125827814570
8.0	1.1864573092707758	0.33794728316890	1.2000842069324693	0.33642384105960266
9.0	1.1834189045836423	0.33691650714180053	1.23707499817798	0.30331125827814570
10.0	1.1920980804098509	0.32763952269795320	1.1030983623705413	0.30331125827814570
11.0	1.1791485072024719	0.34442644676778090	1.1684240792926990	0.30331125827814570
12.0	1.178594824211898	0.33838904432336920	1.1976736194209048	0.33642384105960266
13.0	1.1690709616185920	0.32631423943454574	1.1835010679144609	0.33642384105960266
14.0	1.1813908689715698	0.34192313355912235	1.1048036939219426	0.36026490066225164
15.0	1.1796923624472286	0.33352967162420850	1.1812042400144316	0.33642384105960266
16.0	1.1820069839299278	0.32808128405242230	1.1516973809192055	0.33642384105960266
17.0	1.2027478001845038	0.32999558238845533	1.1444901667143170	0.36026490066225164
18.0	1.1805227049247957	0.33323516418789570	1.1675201742272627	0.30331125827814570
19.0	1.1811089243989952	0.33205713444264470	1.1450191416238484	0.36026490066225164
20.0	1.1844836903123890	0.33500220880577236	1.1114024225034211	0.30331125827814570

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.9764565980836345	0.45913709321160360	0.7804935072597704	0.61192052980132450
2.0	1.0735004351192425	0.36401119128257986	1.0963306790903995	0.36026490066225164
3.0	1.1108988599305438	0.33132086585186277	1.0975709225002068	0.33642384105960266
4.0	1.1056694289399542	0.33971432778677660	1.1065461397171021	0.30331125827814570
5.0	1.106589277936376	0.32734501546164040	1.1132933980540225	0.30331125827814570
6.0	1.1069414151571384	0.34015608894124577	1.0985726406699732	0.36026490066225164
7.0	1.108284187962787	0.3260197319982330	1.115654468536377	0.30331125827814570
8.0	1.1073064340719485	0.33397143277877630	1.0993193651500501	0.30331125827814570
9.0	1.1059583501344012	0.33603298483286703	1.105299048674734	0.30331125827814570
10.0	1.1060184155392280	0.33588573111471065	1.1000458165218956	0.33642384105960266
11.0	1.1082842631530987	0.33411868649683407	1.0978459772310758	0.36026490066225164
12.0	1.1071873231405926	0.33500220880577236	1.1132290532714442	0.30331125827814570
13.0	1.107206172460 1	0.33397143277877630 763	1.0992830176102388	0.33642384105960266
14.0	1.1078984356179253	0.32513620968929463	1.1084888520993685	0.33642384105960266
15.0	1.1072205269294577	0.3327934030334266	1.0984022316179778	0.36026490066225164
16.0	1.1092023280119025	0.32616698571638936	1.1367927080706546	0.30331125827814570
17.0	1.1079210348348314	0.33765277573258723	1.1127976417541503	0.30331125827814570
18.0	1.1099277929226277	0.33014283610661170	1.0976785396274766	0.36026490066225164
19.0	1.1083169657434255	0.33338241790605210	1.1004660242482236	0.36026490066225164
20.0	1.1071563540695695	0.32749226917979680	1.0992232912465145	0.36026490066225164

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.2943619402208847	0.88705639817405390	0.2329523771903232 5	0.91390728476821190
2.0	0.147162911017591	0.94728316890001470	0.2334201215986946 6	0.90993377483443700
3.0	0.060583971124386480	0.97864821086732450	0.315623687107214	0.89933774834837090
4.0	0.032883639071680806	0.98954498601089680	0.337968252498141 83	0.89933774834837090
5.0	0.017093512217486246	0.99455161242821380	0.420603183975234 94	0.89403973509933780
6.0	0.017734146048157182	0.9942571049919010	0.45809127262481	0.89403973509933780
7.0	0.016792317182852670	0.99469886614637020	0.460206323331214 33	0.88609271523178810
8.0	0.006664673043554814	0.99808570116619670	0.454141028860875 87	0.90866927152317880
9.0	0.009768389078236260	0.99720217935502880	0.405972088023386	0.92317880794701990
10.0	0.014204062238620889	0.99543513473715210	0.366923199915847 93	0.90596026490066230
11.0	0.007357478794733307 25	0.99838020991002798	0.437883681300751 84	0.90596026490066230
12.0	0.002291804923856542	0.99911647769106170	0.431825886195147 95	0.91390728476821190
13.0	0.006964189880205837	0.9980857016639670	0.523708848283690 5	0.90198675496688740
14.0	0.018139792383045195	0.99396259755558820	0.456662902387018 34	0.90198675496688740
15.0	0.010349554900204814	0.99661316448240320	0.540753871292537 6	0.89536423841059600
16.0	0.009075171224194555	0.99779119422766430	0.518738255548094 8	0.89006622516556290
17.0	0.013975507485799166	0.99602414960977770	0.440754117126139 97	0.89536423841059600
18.0	0.005117732493476095	0.99852746281843620	0.546907885052343 3	0.89006622516556290
19.0	0.002670760087690526 6	0.99911647769106170	0.555496755142545 5	0.90993377483443700
20.0	0.004810132328676093	0.99867471653659260	0.570392141351093 4	0.89271523178807940

(e)

Gambar D.11 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 20, *batch* 4 dan *learning rate* 10e-1 - 10e-5 pada model IndoBERT.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	15.8904921431912 37	0.32734501546416404	31.864645506206312	0.30331125827814 57
2.0	17.431646608281333	0.33102635841555	13.029416867306358	0.36026490066225164
3.0	18.198276750260725	0.32778677661610955	20.081241155925 55	0.30331125827814 57
4.0	17.18872347863 74	0.33500220880577236	21.531107792101 41	0.30331125827814 57
5.0	15.525421512702609	0.33765277573258723	27.976255888687938	0.33642384105960266
6.0	16.215731508319 03	0.3291120660079517	17.671154986592979	0.36026490066225164
7.0	15.591493884441569	0.33573847739655427	16.082334558587327	0.33642384105960266
8.0	17.353638834610702	0.33220438816080106	24.075809935519 57	0.33642384105960266
9.0	13.753697221214555	0.33146811957001915	18.116806562323 32	0.30331125827814 57
10.0	16.001154944950056	0.32793403033426594	9.246758965442055	0.36026490066225164
11.0	17.662346395643073	0.33190988072448 83	26.382402791474995	0.33642384105960266
12.0	18.7475828125423 48	0.32498895597113825	14.824765298241063	0.36026490066225164
13.0	16.124273795893 39	0.3354439696960241 5	8.948854074980083	0.30331125827814 57
14.0	18.218616538530807	0.33161537328817553	13.852063274383545	0.33642384105960266
15.0	18.915975549195764	0.3220438816080106	9.737828612327576	0.33642384105960266
16.0	19.522962640747163	0.32572522495619202	18.831260816674483	0.33642384105960266
17.0	18.13077169642493	0.334854955087616	8.895494284127889	0.30331125827814 57
18.0	17.729160074491244	0.3320571344426447	23.486158217881854	0.33642384105960266
19.0	16.687376079626723	0.33249889559711 38	11.709674905475817	0.30331125827814 57
20.0	16.10745291118768	0.32322191135326167	5.764361187031395	0.33642384105960266

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.9629827622670868	0.33618023855310234	1.2165447988008198	0.36026490066225164
2.0	1.8412296827114654	0.33868555175908196	1.5735752820960627	0.30331125827814 57
3.0	1.809647021957786	0.32896480636136 06	1.510162555554	0.30331125827814 57
4.0	1.9012794375279205	0.33691650714180 53	2.44651966722388	0.33642384105960266
5.0	1.8904642184013754	0.33691650714180 53	1.3020920703285 62	0.36026490066225164
6.0	1.7588669119580473	0.33014283610661 17	1.1350331237441615	0.30331125827814 57
7.0	1.9711893339179571	0.33971432778677 66	1.166958397313168	0.30331125827814 57
8.0	1.8852907922579627	0.32336916507141805	1.3918213844299316	0.30331125827814 57
9.0	1.7867575680268808	0.33676925342364894	2.1589785814285 28	0.33642384105960266
10.0	1.8097717238609867	0.34442644676778 09	1.7404493670714 53	0.30331125827814 57
11.0	1.7194413698253137	0.34207038727727873	2.2509807429815 59	0.36026490066225164
12.0	1.8716354667893 83	0.33190988072448 83	1.5599259978846 5	0.30331125827814 57
13.0	1.8561522995765696	0.33647474598733 62	1.3537806479554428	0.33642384105960266
14.0	1.9132010728226112	0.33927256663230 75	1.2388455491316945	0.33642384105960266
15.0	1.7435943115726376	0.33382417906052125	2.372209527618007	0.33642384105960266
16.0	1.9182587340386372	0.32322191135326167	2.243121301500421	0.30331125827814 57
17.0	1.8583364599725523	0.33544396996024 15	1.1216584193079095	0.33642384105960266
18.0	1.8635530747008127	0.32793403033426594	1.5001312764067398	0.33642384105960266
19.0	1.7152055551979008	0.34207038727727873	1.4326557310003982	0.30331125827814 57
20.0	1.8939419087588576	0.33721101457811 81	2.050667071342468	0.33642384105960266

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.1888996291778393	0.33397143277867763	1.1160063636930366	0.36026490066225164
2.0	1.1682810150832816	0.33235164187895744	1.1163591905644066	0.36026490066225164
3.0	1.1867042993347834	0.33750552201443085	1.471202237982499	0.30331125827814 57
4.0	1.183364846409 2265	0.34265940214990426	1.1458404264952007	0.30331125827814 57
5.0	1.1950676891211205	0.33470770136945 96	1.1104963867287887	0.30331125827814 57
6.0	1.1726072292305414	0.32940656751582975	1.1444004002370332	0.30331125827814 57
7.0	1.1748554531761277	0.33190988072448 83	1.2401760766380712	0.33642384105960266
8.0	1.1770109600959031	0.33382417906052125	1.1035427758568213	0.33642384105960266
9.0	1.1800584736224198	0.3254307171256074	1.1245824029571132	0.30331125827814 57
10.0	1.1802487672428361	0.33014283610661 17	1.1264497374233446	0.36026490066225164
11.0	1.193221692763734	0.3260197319982 33	1.2178922872794302	0.30331125827814 57
12.0	1.1844561818912538	0.33161537328817553	1.1055325608504445	0.36026490066225164
13.0	1.1934311627218384	0.33485495087616	1.3507184204302336	0.30331125827814 57
14.0	1.1861421297380024	0.33662199970549256	1.2025717189437464	0.33642384105960266
15.0	1.1790557351353874	0.33706376085996 17	1.1952422418092425	0.30331125827814 57
16.0	1.165146121428347	0.33514946252392874	1.1811050396216543	0.30331125827814 57
17.0	1.1899991302243 11	0.34427919310496245	1.1189617470691078	0.30331125827814 57
18.0	1.17473764891338	0.33941982035046386	1.5731295347213745	0.33642384105960266
19.0	1.1776679744428402	0.33456044765133032	1.221717053338101	0.33642384105960266
20.0	1.1894225850964604	0.32822853777057 87	1.159570162547262	0.33642384105960266

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.7374743183173055	0.6365778235900457	1.0995704368541115	0.36026490066225164
2.0	1.1087335221056944	0.3283757914887351	1.1119688399795960	0.30331125827814 57
3.0	1.1078717209425073	0.33102635841555	1.1003399855294478	0.33642384105960266
4.0	1.1060491617071333	0.33735826829627447	1.1086251616477967	0.36026490066225164
5.0	1.1071060135592	0.32940656751582975	1.1064341971748755	0.33642384105960266
6.0	1.1087238872851584	0.32925931379767337	1.1207195031015496	0.30331125827814 57
7.0	1.1073112103065696	0.3311736121337064	1.1155469681087293	0.33642384105960266
8.0	1.1081355133197828	0.33426594021499045	1.0973251945094058	0.33642384105960266
9.0	1.108132183621994	0.33927256663230 75	1.1418978502875 88	0.30331125827814 57
10.0	1.1067251555349578	0.33058459726108086	1.100752019882202	0.36026490066225164
11.0	1.1060577679438641	0.34589898039493447	1.1084027829923129	0.30331125827814 57
12.0	1.1075460762663079	0.34000886352308 94	1.0979236427106356	0.33642384105960266
13.0	1.1084335848636424	0.34074510386138713	1.1073726094266647	0.30331125827814 57
14.0	1.1062233283045155	0.3291120660079517	1.1207544376975611	0.33642384105960266
15.0	1.1063750240912287	0.33352967162420 85	1.1085992223338077	0.30331125827814 57
16.0	1.1072713676554857	0.3398615815049 33	1.0973315464822 87	0.36026490066225164
17.0	1.1066468030179206	0.33014283610661 17	1.1084800632376 42	0.36026490066225164
18.0	1.1079845768262415	0.33102635841555	1.1095926046371 46	0.33642384105960266
19.0	1.1076097682873127	0.32557797084376383	1.1050499878431 62	0.30331125827814 57
20.0	1.1070933490114 02	0.33809453688705 64	1.1373144877584358	0.33642384105960266

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.2868707222327616	0.8879399204829922	0.2300193668196 0758	0.9046357615894 04
2.0	0.13973631913 2735	0.9502282432631424	0.2335968094681831	0.9125827814569536
3.0	0.06682496174252 06	0.9758503902223531	0.3166148707252241	0.9033112582781457
4.0	0.0277639354136 0457	0.9896922397290532	0.3990850305573794	0.8993377483443709
5.0	0.0177675667365 2401	0.994257104991901	0.4566586554044 31 85	0.9006622516556292
6.0	0.0238386672091 79674	0.9910175231924606	0.3564330463760263	0.9006622516556292
7.0	0.0112763280866 89031	0.9964659107642468	0.4261606905422492	0.9072847682119205
8.0	0.0139475904897 00262	0.9955823886455 3084	0.4871640694977 1274	0.9033112582781457
9.0	0.0142150308943 48469	0.9952878810189957	0.3818897625927654	0.9059602649006623
10.0	0.0115890582714 15615	0.996907671918716	0.4514319429988 2067	0.9086092715231788
11.0	0.0027000590012 98497	0.9991164776910617	0.6077683026371615	0.9019867549668874
12.0	0.0125022884807 01807	0.9963186570460905	0.4149119832042886	0.9086092715231788
13.0	0.0148818379665 13408	0.9955823886455 3084	0.5226376446181492	0.8900662251655629
14.0	0.0079894011811 56607	0.9973494330731851	0.4204341120458833	0.9125827814569536
15.0	0.0020503126707 55477	0.9995582388455 309	0.4810888295200512	0.9165562913907285
16.0	0.0098001852275 98969	0.9974966867913415	0.358931457450595	0.9006622516556292
17.0	0.0084684594349 46478	0.9970549256368724	0.4643579828470952	0.9006622516556292
18.0	0.0023313434075 68652	0.9994109851273745	0.4828738314527424	0.9125827814569536
19.0	0.0026778517127 32219	0.9991164776910617	0.5896600566199356	0.9059602649006623
20.0	0.0171773796909 80543	0.9951406273008393	0.4856588013125 5224	0.8953642384105 96

(e)

Gambar D.12 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 20, *batch* 8 dan *learning rate* 10e-1 - 10e-5 pada model IndoBERT.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	12.6031778571322O6	0.3320571344426447	5.332711766895495	0.3033112582781457
2.0	11.177192224209385	0.33956707406862024	1.3062316762773614	0.33642384105960266
3.0	10.079026376611353	0.3319098807244883	20.706973587839226	0.3033112582781457
4.0	10.149331030281187	0.33146811957001915	10.3344343938325S8	0.36026490066225164
5.0	11.247985913489536	0.32366367250777308	5.458068294274179	0.36026490066225164

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.9187364463987283	0.5763510528640848	0.7312298094702068	0.6927152317880795
2.0	0.7257890686111961	0.6776616109556767	0.7169177369067543	0.6886927152317788
3.0	0.7817827744323879	0.6504196730967456	1.011091555419721	0.4821192052980132
4.0	0.8544246828090687	0.5834192313355913	0.7836559996759314	0.6291390728476821
5.0	0.718636405762851	0.6789868944190841	0.650694302822414S	0.747019867549668S

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.31627561253409403	0.8771903990575762	0.26363898471095S4	0.8887417218543047
2.0	0.513588888S171207	0.7805919599469887	0.5279811509345708	0.7880794701986755
3.0	0.4729969150861736S	0.8088646738330143	0.49849649393244794	0.796026490066225S
4.0	0.41002882736020924	0.8330142836106612	0.807566724482335S	0.633112582781457
5.0	0.4881559794656800S	0.80518333087910S7	0.612866525038292S	0.7390728476821192

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.36327161401229413	0.8573111471064644	0.2623002958900638	0.895364238410596
2.0	0.17209686129681315	0.9329995582388455	0.25983998690376453	0.9046357615894O4
3.0	0.056822729744903608	0.9818877926667648	0.37022929844131697	0.9019867549668874
4.0	0.019713442319203595	0.9939625975555882	0.4061886309509741	0.8940397350993378
5.0	0.009296541647503G9	0.9972021793550288	0.5634751514230151	0.905960264900662S

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.6654413049191552	0.7443675452805183	0.3887866474688053	0.8317880794701987
2.0	0.3284627393796355S	0.8699749686679134	0.3259522029247723S	0.8649006622516556
3.0	0.2583496592334472T	0.8961861286997497	0.3055318301837695	0.8794701986754967
4.0	0.19671450792213965	0.9226917979678987	0.2937815439507463S	0.8834437086092716
5.0	0.13266698887420S1	0.9509645118539243	0.3107244687013965S	0.8807947019867549

(e)

Gambar D.13 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 5, *batch* 2 dan *learning rate* 10e-1 - 10e-5 pada model Cendol.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	12.4069169141238 08	0.33735826829627447	21.171383586682772	0.3033112582781457
2.0	10.927821220160935	0.33868355175968196	7.200375777796695	0.36026490066225164
3.0	10.491100834662838	0.33573847739655427	7.948741195076391	0.36026490066225164
4.0	10.762196107733516	0.33411868649683407	6.224420903858386	0.33642384105960266
5.0	10.789480973469495	0.3433956707406862	16.221270656585695	0.33642384105960266

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.1638095174577128	0.350611102930349	1.103520329375016	0.33642384105960266
2.0	0.9062351086667605	0.5469003092328081	0.8080252575246911	0.6079470198675496
3.0	0.8276892053084042	0.6041820055956413	0.8673523457426774	0.6158940397350994
4.0	0.7691936422714215	0.6492416433514946	0.7591279243168078	0.6754966887417219
5.0	0.8348613784893101	0.5979973494330731	0.7535479395013106	0.033112582781457

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.32435356564649 78	0.8696804594316007	0.25544447776077217	0.8953642384105 96
2.0	0.2125368573209512	0.91856869385952	0.357731057120193	0.8860927152317881
3.0	0.3552319637 3017474	0.8570166396701516	0.3971649680874849 7	0.8569536423841 06
4.0	0.2147110447669303 1	0.9259313797673391	0.2714952375200626	0.9059602649006623
5.0	0.1232108352686639 4	0.9599469886614637	0.3283108864567782	0.8821192052980 132

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.3670384215379684 5	0.8567221322338389	0.2674856312364634	0.9033112582781457
2.0	0.1768887415105966	0.93241054336622	0.2470935222570245 2	0.9112582781456954
3.0	0.0570821665376257 5	0.9818877926667648	0.3520593012459453 7	0.9006622516556292
4.0	0.0217239192258910 43	0.9936680901192755	0.3953318275252202	0.9006622516556292
5.0	0.0118126102370163 4	0.9963186570460905	0.4757220260242895	0.8980132450331125

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.7046580349037027	0.7066705934324842	0.4085105403473503	0.823841059602649
2.0	0.3441554149075272	0.8636430569871889	0.3409868312117300 7	0.847682119205298
3.0	0.2735358153286668	0.8930938006184657	0.3067085674620772 5	0.8649006622516556
4.0	0.2182186340185689 3	0.9172434103961125	0.2872173376136312	0.8860927152317881
5.0	0.1609190735425438	0.939331466811957	0.2895146703298547	0.8900662251655629

(e)

Gambar D.14 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 5, *batch* 4 dan *learning rate* 10e-1 - 10e-5 pada model Cendol.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	10.1269216421636 18	0.3283757914887351	2.835802754602934	0.3033112582781457
2.0	10.3436904662629 88	0.3324988955971138	6.351097333431244	0.3602649006622516 4
3.0	11.7377907583452 71	0.3229274039169489	9.948441575702867	0.3033112582781457
4.0	10.7738631810720 84	0.3242526873803563 4	7.970293464158 71	0.3602649006622516 4
5.0	10.0221786784058 6	0.3366219997054925 6	30.148240691737126	0.3364238410596026 6

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.9751364093436229	0.5146517449565602	0.8170350463766801	0.6132450331125828
2.0	0.6187400279656596	0.7390664114268886	0.5325559504722294	0.7774834437086092
3.0	0.8523508097331431	0.596377558533353	1.2193987476198296	0.4993377483443708 4
4.0	0.7854827813567206	0.6457075541157414	0.6689693532491985	0.6993377483443709
5.0	0.7270630602456094	0.6633780002945074	0.6514212517361891	0.743046357615894

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.3241165317595005	0.8710057428950081	0.2730923812150171	0.8874172185430463
2.0	0.2009343139951208 5	0.9229863054042114	0.3087100590334127	0.8887417218543047
3.0	0.1264662121777993 6	0.953909586217052	0.2729954306943048	0.8980132450331125
4.0	0.1137640486465081 7	0.9599469886614637	0.252420847083589	0.904635761589404
5.0	0.1657655230494741 4	0.9368281549109115	0.2962373192029956	0.8927152317880794

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.3607436361332528	0.8614342512148432	0.2631344831107478 3	0.8927152317880794
2.0	0.1703366928367636 4	0.9331468119570019	0.3279245289557270 5	0.8754966887417218
3.0	0.0536105716090068 8	0.9820350463849212	0.3315273441928806 6	0.8980132450331125
4.0	0.0154296656014254 182	0.9954351347371521	0.4840614273260335	0.8940397350993378
5.0	0.0095838296185692 08	0.9974966867913415	0.4575295713907077	0.8927152317880794

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.6871014526826894	0.7266970991017523	0.4067351807104913 6	0.8437086092715231
2.0	0.3364679852217541 4	0.8632012958327198	0.3418130284273311	0.8503311258278146
3.0	0.2699249309385623 5	0.8905904874098071	0.3121969479234203	0.866225165562914
4.0	0.2076254218930018 7	0.9209247533500221	0.3031530226286696 7	0.8860927152317881
5.0	0.1377076275286882 3	0.9503754969812988	0.3103574075221427	0.8887417218543047

(e)

Gambar D.15 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 5, *batch* 8 dan *learning rate* 10e-1 - 10e-5 pada model Cendol.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	12.636235341341953	0.33456064476513032	11.173298936141165	0.33642384105960266
2.0	11.371488223147668	0.34251214843174790	18.770861786290220	0.30331125827814570
3.0	10.003687509167742	0.33205713444264470	9.279270423086066	0.30331125827814570
4.0	10.522993440271406	0.32646149315270210	10.619706766228926	0.33642384105960266
5.0	9.957640528047642	0.33559122367839790	5.296551559473359	0.36026490066225164
6.0	10.261414660160618	0.33838904432336920	8.146958225651792	0.36026490066225164
7.0	10.161591384309762	0.33470770136945960	3.906270466352764	0.30331125827814570
8.0	10.154010010692340	0.33780002945074360	15.923342401102970	0.36026490066225164
9.0	11.431915073568886	0.33780002945074360	14.649255250629626	0.30331125827814570
10.0	9.893462491057182	0.31747901634516273	2.404637836155138 6	0.33642384105960266

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.5237757683467248	0.44455897511412160	1.8259515975650988	0.30331125827814570
2.0	1.6588177623400560	0.33176282700633190	1.1662235147074649	0.33642384105960266
3.0	1.5645880303899589	0.34383743189515537	1.5065229541377017	0.30331125827814570
4.0	1.565522210453682 7	0.32395817994400436	1.2411215619037026	0.30331125827814570
5.0	1.4977960033677913	0.34103961125018406	1.3201265755452607	0.36026490066225164
6.0	1.5037924990637141	0.33632749226917980	2.3125524106778594	0.33642384105960266
7.0	1.6502288620137146	0.32528346340745 1	1.4822087921594318	0.36026490066225164
8.0	1.6242395086900645	0.32336916507141805	1.3324772985357987	0.33642384105960266
9.0	1.5512385131402908	0.33618023855102340	1.6348789729570088	0.30331125827814570
10.0	1.5523920686843118	0.33647474598733620	1.3895649263733312	0.36026490066225164

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.32578138117618133	0.87041672802238260	0.25027417880728060	0.90198675496688740
2.0	0.29581720177994686	0.88676189073774110	0.33204186899881616	0.87947019867549670
3.0	0.28084862120614942	0.92445884258577530	0.28143608581862950	0.88741721854304630
4.0	0.13990817865247382	0.95361507878073930	0.32609257923047010	0.88211920529801320
5.0	0.10372765226815076	0.96421734648799880	0.36373931420721900	0.89403973509933780
6.0	0.10205458811514719	0.96554262995140630	0.39641841315223200	0.89271523178807940
7.0	0.09109501836388685	0.96922397290531580	0.35375973613638630	0.88476821192052980
8.0	0.07710704175245019	0.97614489765866590	0.46603084129624460	0.84503311258278150
9.0	0.06599798666177722	0.98026800176704460	0.45401813044506860	0.88476821192052980
10.0	0.06046888911145689	0.97982624061257550	0.48903692977895080	0.89536423841059600

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.36193370188885887	0.85819466694154030	0.28023523196746210	0.88476821192052980
2.0	0.16709748238114777	0.93314681195700190	0.24798104790664327	0.91125827814569540
3.0	0.05494400010419302	0.98115152407598290	0.34537110287398576	0.88476821192052980
4.0	0.01554265619548294 6	0.99587689589162130	0.48382477587740713	0.89933774834437090
5.0	0.01366263346888400 1	0.99587689589162130	0.47118517369082450	0.89139072847682120
6.0	0.01062534142206421 9	0.99690767191871600	0.54993204728889400	0.89403973509933780
7.0	0.01106089419705073 2	0.99676041820055960	0.48194555917321883	0.89668874171785430
8.0	0.00761248285442052 4	0.99720217935502880	0.54626780449648080	0.90463576158940400
9.0	0.00632256322501100 6	0.99867471655659260	0.55118800764085840	0.89668874171785430
10.0	0.00432106034871191 25	0.99867471655659260	0.62703714783308210	0.89403973509933780

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.7020705088674671	0.70978292151376820	0.41298933601693105	0.83708609271523180
2.0	0.3333640495135292	0.86629362391400380	0.33662699800180760	0.85562913907284770
3.0	0.2586402939500899	0.89957296421734640	0.30478218237036153	0.87152317880794700
4.0	0.1943972274832031 73	0.92239729053158590	0.30135821742250730	0.87549668874172180
5.0	0.1275666897479681 7	0.95788543660727430	0.31177452760626023	0.87682119205298010
6.0	0.0742792856780942 6	0.97894271830363720	0.34389733418601715	0.87682119205298010
7.0	0.0392014875354517 4	0.99028125460161870	0.37167894295386140	0.87682119205298010
8.0	0.0192743848208457 3	0.99572964217346490	0.41060831481849860	0.87019867549668870
9.0	0.0097696234178178 13	0.99838020981002790	0.44047385657577640	0.86623516556291400
10.0	0.0054748256623623 99	0.99882197025474900	0.47591963989114830	0.87417218543046360

(e)

Gambar D.16 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 10, *batch* 2 dan *learning rate* 10e-1 - 10e-5 pada model Cendol.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	9.517158481763024	0.3264614931527021	10.551549936595716	0.36026490066225164
2.0	10.99371268134235	0.32174937417169786	10.94729911402652	0.3033112582781457
3.0	10.757631191113038	0.3324988955971138	4.711141829741629	0.36026490066225164
4.0	9.795718879736214	0.33662199970549256	8.125491428375245	0.33642384105960266
5.0	11.120182812319205	0.32498895597113825	9.715906313845986	0.36026490066225164
6.0	10.411433119234685	0.3319098807244883	12.393542613863552	0.29139907284768212
7.0	9.005996368097051	0.329112060079517	11.018790482069316	0.2807947019867755
8.0	9.725627108127124	0.3301428361066117	27.777733421325685	0.3033112582781457
9.0	9.333760356032526	0.34045059637755853	5.546924435464496	0.33642384105960266
10.0	11.665440946641883	0.32174937417169786	11.153797982868396	0.34966887417218545

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.1461722389197 04	0.5115594168752761	1.1602520108222962	0.33642384105960266
2.0	1.0992866624651303	0.3562067442202916	1.1086597348514355	0.46225165562913906
3.0	0.7719444855302674	0.6343690178176999	0.6578948689134497	0.6834437086092715
4.0	0.8724472109575013	0.589898394934472	1.0962564317803634	0.36026490066225164
5.0	1.1057639811429314	0.33235164187895744	1.1054710463473671	0.33642384105960266
6.0	1.092125161797756	0.3738771903990576	1.1063950846069737	0.3258278145695364
7.0	0.9613963444453623	0.521278162273597 4	0.8317033485362404	0.6079470198675496
8.0	1.7817627303390045	0.4972758062141069	1.3309507689977946	0.36026490066225164
9.0	1.8161875341609734	0.3441319393314681 3	1.3989197643179643	0.36821192052980134
10.0	1.6701233868253527	0.326019731998233	1.7884896987362913	0.33642384105960266

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.33586042100913027	0.8643795255779708	0.31164394568063714	0.8807947019867549
2.0	0.20918277326061635	0.9203357384773966	0.2566485348329144	0.8887417218543047
3.0	0.13112986344265865	0.9530260639081137	0.2931956731003562	0.8887417218543047
4.0	0.10830520043655976	0.9636283316153733	0.3353083512071814 4	0.9059602649006623
5.0	0.08934139942598679	0.9690767191871594	0.2559369189468654	0.9086092715231788
6.0	0.06774282877059085	0.9793844794581064	0.3258169831512005 6	0.8940397350993378
7.0	0.06235096674485574	0.9787954645854808	0.3688687454063543 4	0.8993377483443709
8.0	0.06340723772543111	0.9795317331702627	0.4298060431405534 3	0.9099337748344437
9.0	0.07103324528571092	0.9768811662494478	0.3656537416231769 3	0.8847682119205298
10.0	0.058776898112957 6	0.9826240612575468	0.3128525676083212	0.8940397350993378

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.3641186168678412	0.8552495950522 75	0.24839455718174577	0.9086092715231788
2.0	0.17442382460845923	0.9287292004123104	0.25029971956893016	0.8953642384105960
3.0	0.05440126068847793	0.9824768075393904	0.3717190203093387 3	0.9072847682119205
4.0	0.01734748759629766 2	0.9942571049911901	0.4840361102353926	0.8966887417218543
5.0	0.00880566142417794 7	0.9973494330731851	0.5398882821036655	0.9019867549668874
6.0	0.01513024574737043 3	0.9960241496097777	0.5124532076463526	0.8913907284768212
7.0	0.01670270982831128 4	0.9949933735826829	0.4791979580257487	0.8927152317880794
8.0	0.00564596208288802 3	0.9982329553821234	0.5470543965698306	0.8966887417218543
9.0	0.00425102456359 6848	0.9986747165365926	0.6015773161134856	0.9019867549668874
10.0	0.00281716332162582 85	0.9992637314092181	0.688888671979083	0.8860927152317881

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.23132165480027736	0.9106169930790753	0.31229032949394375	0.8900662251655629
2.0	0.07253890320037117	0.9776174348402297	0.32028726333511787	0.8913907284768212
3.0	0.04870807706568038	0.9868944190840818	0.3379403370548205	0.8860927152317881
4.0	0.02772620154332311 5	0.993079075246 65	0.3578539305638084	0.8940397350993378
5.0	0.01414415119676785 3	0.9976439405094979	0.3932543257441706	0.8927152317880794
6.0	0.00779437624039990 9	0.9982329553821234	0.411180297389422	0.8966887417218543
7.0	0.00520367846305639	0.9986747165365926	0.4242789882062904	0.8900662251655629
8.0	0.00427929771854396 3	0.9992637314092181	0.4503580268866292 4	0.8986132450331125
9.0	0.00275418700771408 5	0.9994109851273745	0.4556772446471165	0.8953642384105960
10.0	0.00196759545288060 84	0.9995582388455309	0.4870727011718707 4	0.8927152317880794

(e)

Gambar D.17 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 10, *batch* 4 dan *learning rate* 10e-1 - 10e-5 pada model Cendol.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	12.0804315149011182	0.32705050802532765	4.898514295879163	0.3033112582781457
2.0	10.8402211890006337	0.3361802385510234	5.9812889764183345	0.36026490066225164
3.0	9.999932847960958	0.32999558238845533	19.83231791948017	0.33642384105960266
4.0	10.412036485469805	0.3345604476513032	1.1470367143028661	0.36026490066225164
5.0	9.048530994214775	0.3257252245619202	2.0833371890218633	0.3033112582781457
6.0	10.488133764519707	0.3274922691797968	2.3038658838523106	0.36026490066225164
7.0	9.88039900194218213	0.3297010749521425	4.627271699905395	0.3033112582781457
8.0	10.9624899208217503	0.33426594021499045	1.2295008107235557	0.3033112582781457
9.0	10.929277878908442	0.3304373435429245	26.875029619116532	0.33642384105960266
10.0	9.254461874915517	0.334854955087616	4.147306953605852	0.33642384105960266

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.1619328441552474	0.3364747459873362	1.1197557179551376	0.36026490066225164
2.0	1.0714242196827248	0.4136356943012811	1.1220803710566068	0.33642384105960266
3.0	1.106831049750634	0.3305845972761080	1.1001115535434924	0.3033112582781457
4.0	1.1054999663355214	0.3330879104697393	1.0988328544717085	0.36688741721854307
5.0	1.0498361310913	0.432189662788985	1.0376979219286064	0.47152317880794703
6.0	0.9558617956365938	0.5298188779266676	1.0179383353183145	0.4463576159940397
7.0	0.8569802289435945	0.5876895891621263	0.8378151379133526	0.6026490066225165
8.0	0.7488689324845975	0.6533647474598734	0.7061435032831995	0.7033112582781457
9.0	0.7758540066027108	0.6564570755411574	0.9860834874604878	0.4794701986754967
10.0	0.890420003479305	0.573700485937 27	0.8251419073656986	0.5867549668874172

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.31852942407794 86	0.8771903990575762	0.24899837772459968	0.8953642384105596
2.0	0.19421853766867395	0.9284346929759977	0.26611601878447755	0.8966887417218543
3.0	0.13048578921977 12	0.9553821233986158	0.2638933614993125	0.9099337748344437
4.0	0.10320549336697679	0.9661316448240318	0.31319328536720653	0.8927152317880794
5.0	0.09255245545854598	0.9676041820055956	0.29653864602901436	0.8980132450331125
6.0	0.06046437896765564	0.9805625092033574	0.4333638503706377	0.8821192052980132
7.0	0.05638145685201887 6	0.9805625092033574	0.3650924960718073	0.9086092715231788
8.0	0.07812209438448912	0.9765866588131335	0.3509267323956757	0.9086092715231788
9.0	0.3611344004771357	0.8543660727433368	0.656747339273754	0.7456953642384105
10.0	0.4638337621814 16	0.815638344868208	0.38616775199770925	0.8437086092715231

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.3567956568662795	0.8593726991606538	0.2650075577076917	0.8980132450331125
2.0	0.17530207249998375	0.93241054336622	0.2792432975171036	0.8913907284768212
3.0	0.05111937621096236	0.9823295532821234	0.3593606355165225	0.8900662251655629
4.0	0.01796888865094574	0.9945516124282138	0.4150626832162838 7	0.8980132450331125
5.0	0.01196266734108066 3	0.9964659107642468	0.5571070684226326	0.8834437086092716
6.0	0.00466875921265867 4	0.9986747165365926	0.5883617805200868	0.8966887417218543
7.0	0.00488530466840394 15	0.998821970254749	0.6223447900600257	0.8966887417218543
8.0	0.00720805190493629 3	0.9977911942276543	0.5655756397261078	0.895364238410596
9.0	0.00707891941352340 4	0.9983802091002798	0.731112589765718	0.9019867549668874
10.0	0.01294006520819208 7	0.9954351347371521	0.5287490775012261	0.9006622516556292

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.7242450526311064	0.6944485348255044	0.4150925517474 7503	0.8291390728476821
2.0	0.3285251854358348 7	0.8680606685318805	0.3160162645147035	0.8635761589403973
3.0	0.2533167866146404 7	0.9014872625553795	0.2873379593519004	0.8834437086092716
4.0	0.1912282439274000 4	0.9240170814313061	0.278235528120575	0.8900662251655629
5.0	0.1286775390158624 4	0.9508172581357679	0.279786576051265	0.8980132450331125
6.0	0.0762681496956657 7	0.9759976439405095	0.2978607214190752	0.8966887417218543
7.0	0.0399816850174859 6	0.9901340008835223	0.3244810506465575	0.9019867549668874
8.0	0.0191160318346664 5	0.9963186570460905	0.3449035419040899	0.8993377483443709
9.0	0.0096652253344744 16	0.9986747165365926	0.3787234814810483	0.8993377483443709
10.0	0.0053146139010698 91	0.9994109851273745	0.4074570729408726	0.8966887417218543

(e)

Gambar D.18 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 10, *batch* 8 dan *learning rate* 10e-1 - 10e-5 pada model Cendol.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	10.240134708311308	0.33426594021499045	2.1377118976492633	0.3033112582781457
2.0	11.35471060306922	0.33500220880577236	7.4069735464296848	0.36026490066225164
3.0	10.656261379502547	0.33573847739655427	26.478489153008713	0.3033112582781457
4.0	10.259791505561642	0.32793403033426594	5.663163892846359	0.3033112582781457
5.0	10.682394328401001	0.33161537328817553	9.746916253943192	0.33642384105960266
6.0	10.027465622332407	0.3301428361066117	3.495855272443671	0.33642384105960266
7.0	9.978024250486573	0.3301428361066117	12.397917185331647	0.36026490066225164
8.0	10.706851993348848	0.3347077013694596	6.295704165257906	0.33642384105960266
9.0	10.1594534272272073	0.3276395228979532	4.0676909020072754	0.3033112582781457
10.0	11.472878029124615	0.33735826829627447	19.320477485656074	0.33642384105960266
11.0	9.042496797895263	0.3352967162420851	8.838056137687282	0.33642384105960266
12.0	10.168002794431994	0.33294065675158296	14.252699224572433	0.36026490066225164
13.0	10.77274213831332	0.3245471948166691	4.3156872648894184	0.33642384105960266
14.0	10.90651728527004	0.3361802385510234	27.175455986826044	0.36026490066225164
15.0	10.343145485831375	0.3308791046973936	12.541969783682573	0.33642384105960266

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.1521256800534727	0.3550287144750405	0.9740489125251177	0.4900662251655629
2.0	0.8110631563831274	0.6178766013841885	0.8724139226110358	0.5854304635761589
3.0	1.2005616416112554	0.5093506111029303	0.8210677827659406	0.5933774834437087
4.0	0.7690544212590503	0.6561625681048446	0.8079981214121769	0.6582781456953642
5.0	0.7808115461882911	0.6558680606685319	0.8090887151266399	0.6145695364238411
6.0	0.6986072608417842	0.6951848034162863	0.7594176805333087	0.7192052980132451
7.0	0.6057886771234663	0.7515829774701811	0.6145868690390336	0.7456953642384105
8.0	0.5423278190695776	0.7867766161095567	0.6298939845279643	0.7629139072847683
9.0	0.6616089539723065	0.7262553379472831	0.5884195677543941	0.7721854304635761
10.0	0.6425770325992076	0.7314092180827566	0.7376897945215828	0.6741721854304635
11.0	0.6337765576899849	0.7395081725813577	0.7647303716132515	0.6701986754966888
12.0	0.6945946434571197	0.699307907524665	0.6587983871761122	0.7324503311258278
13.0	0.5539606761920087	0.7792666764835812	0.7335612335585759	0.7258278145695364
14.0	0.5582757604574988	0.771167721984980	0.6642867077338068	0.7298013245033113
15.0	0.4235586951825728	0.8390516860550729	0.6306573822310096	0.7894039735099337

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.3333197779081667 5	0.8736563098218 23	0.2843765825131222	0.8874172854304 63
2.0	0.191805025618726 3	0.9309380061846562	0.2486254776141753 3	0.8900662251655629
3.0	0.1324908559589599 6	0.9544986010896775	0.2916367984670949 5	0.8821192052980132
4.0	0.1032692521506261 1	0.9643646002061552	0.252721044011904 2	0.9072847682119205
5.0	0.0858729583443851	0.9720217935502872	0.3279796403293546 7	0.8993377483443709
6.0	0.0794389673649046 6	0.9727580621410691	0.3187160009003587 3	0.8966887417218543
7.0	0.0706719044017796	0.9767339125312914	0.3439941212684955 6	0.8980132450331125
8.0	0.0909743133440398	0.9684877043145339	0.563571253928699	0.8344370860927153
9.0	0.3508547687166983 5	0.8657046090413782	0.4311166139809709	0.8476821192052 98
10.0	0.1785112644712472 4	0.9397732292740392	0.3867826336798699	0.8860927152317881
11.0	0.0978525231477998 7	0.9678986894419084	0.3739544907192650 6	0.8966887417218543
12.0	0.0713935417559662 1	0.9776174348402297	0.4087197548170623	0.8940397350993378
13.0	0.0644212166735001 8	0.9789427183036372	0.4243412355843343 4	0.8993377483443709
14.0	0.0403497749208194 3	0.9874834339567075	0.4702716709788594 7	0.8980132450331125
15.0	0.0327975079248570 5	0.9895449860108968	0.616487392427791 9	0.866225165562914

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.3558650138470902 4	0.8609924900603 74	0.2782472248775035	0.8913907284768212
2.0	0.171970779737507	0.9349138565748785	0.2391481305441917	0.9086092715231788
3.0	0.0504998771154283 1	0.983507583566485	0.3743898167290593	0.8900662251655629
4.0	0.0147886417456938 99	0.9952878810189957	0.5171924117670738	0.9033112582781457
5.0	0.0161816325752302 4	0.9948461198645265	0.4637778119526429 5	0.8913907284768212
6.0	0.0127389584342780 08	0.9958768958916213	0.4761353452112081 5	0.895364238410596
7.0	0.0024775886652794892	0.9989692239729053	0.576870423156915	0.8993377483443709
8.0	0.0013362078024858964	0.9998527462818436	0.6137285066672575	0.8980132450331125
9.0	0.013592844143910064	0.9955823884553084	0.613670802557884 3	0.8966887417218543
10.0	0.0172947368937737 7	0.9944043587100574	0.4304240849093778 4	0.9019867549668874
11.0	0.0078069479609165 6	0.9979384479458107	0.5171682226245091	0.8966887417218543
12.0	0.0092083970028239353	0.9984109851273745	0.5123395937162848	0.8980132450331125
13.0	0.0009304114976270 27	0.9997054925636872	0.5290437205654263	0.9033112582781457
14.0	0.0090504370951429 77	0.9977911942276543	0.5360804753801667	0.8927152317880794
15.0	0.0040099541015065415	0.9983802091002798	0.5924711899786452	0.8900662251655629

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.6885226095277373	0.7317037255190894	0.411447738032592	0.8211920529801324
2.0	0.3342057821089654	0.8693859519952879	0.3425331107095668	0.8503311258278146
3.0	0.261165513012567	0.8986223972905316	0.3092931947180707	0.8701986754966887
4.0	0.2022564709888611	0.9222500368134295	0.3065756920234937	0.8701986754966887
5.0	0.1425412522832664 5	0.9463996465910764	0.3051163242345577 6	0.8768211920529801
6.0	0.0891125860361566 7	0.9692239729053158	0.3397100601394318	0.871523178807947
7.0	0.0509782784478711 45	0.9858638430569871	0.3596597164771274 7	0.8741721854304636
8.0	0.0271638496207463 8	0.9929318215284936	0.3925133170651465	0.8768211920529801
9.0	0.0144656220477838 7	0.9967604182005596	0.418224410726811 3	0.8754966887417218
10.0	0.0090548938811744278	0.9980857016613967	0.4489806919825864	0.8754966887417218
11.0	0.0049519944206795 85	0.9989692239729053	0.4698877386916520 7	0.8768211920529801
12.0	0.0025111308126611353	0.9995582388455309	0.5144895794761588	0.8768211920529801
13.0	0.0018880062364772829	0.9997054925636872	0.5551357442202922	0.8794701986754967
14.0	0.0012727213022951 5079	0.9997054925636872	0.5591398845829596	0.8741721854304636
15.0	0.0040692076856946 85	0.9992637314092181	0.5719890489854534	0.8728476821192053

(e)

Gambar D.19 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 15, *batch* 2 dan *learning rate* 10e-1 - 10e-5 pada model Cendol.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	11.581195167152845	0.32410543366219996	15.109327609915482	0.36026490066225164
2.0	10.4725881695606996	0.32793403033426594	2.6459315488212987	0.33642384105960266
3.0	12.513070115001238	0.33824179080521276	15.046235476042096	0.3033112582781457
4.0	10.6740632608304744	0.3245471948166691	20.185037718321148	0.33642384105960266
5.0	11.332831670938356	0.34118686496834044	9.236973250539679	0.3033112582781457
6.0	11.8974227190301988	0.32867029892504784	15.545922472602443	0.33642384105960266
7.0	9.01633694035509	0.33456044765513032	8.150307288922761	0.30596026490066225
8.0	11.159913423625826	0.3335296716242085	10.358371016853734	0.33642384105960266
9.0	9.48330991856481 7	0.32984832867029895	9.209130432731227	0.33642384105960266
10.0	9.372138750637378	0.33397143277867763	29.426165550663348	0.3033112582781457
11.0	10.275885891436 97	0.3361802385510234	22.614603158047323	0.31390728476821195
12.0	10.235328264315081	0.3352967162420851	17.995931213780 45	0.36026490066225164
13.0	12.157943224878839	0.33132086585186277	13.200253065008866	0.36026490066225164
14.0	10.026067013682269	0.3369165071418053	5.928259038925171	0.36026490066225164
15.0	9.870661569498171	0.3397143277867766	14.7749409725791 52	0.3033112582781457

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.0899326268087708	0.42791930496245503	0.9086457396808424	0.5880794701986755
2.0	0.7664651058096487	0.6303931674274775	0.7041163246882589	0.6886927152317788
3.0	0.8855439087000837	0.6402591665439552	0.8903234023796884	0.5708609271523178
4.0	1.0365022569719275	0.4137829480194375	1.101635207627949	0.33642384105960266
5.0	1.0198223229642471	0.4430864379525578	0.8139164708162608	0.5841059602649007
6.0	0.9245977473343219	0.5420409365336475	1.1066239043285973	0.33642384105960266
7.0	1.1027881545228588	0.3426594021499042 6	1.0931924029400475	0.33642384105960266
8.0	0.9620293662109981	0.4897658665881331 37	0.7677128895332939	0.6357615894039735
9.0	0.687982474553571	0.7047562950964512	0.7422600564203764	0.6185430463576159
10.0	0.6899257734049336	0.7038727727875129	0.6061965118897589	0.7350993377483444
11.0	0.5904947433388135	0.7527610072154322	0.6394215627720482	0.7165562913907285
12.0	0.5073645749953175	0.8044706228832227	0.521560052978365	0.8026490066225166
13.0	0.5787603331310729	0.7685171550581652	0.6356578480256231	0.7642384105960265
14.0	0.7513600875424974	0.6760418200559564	0.9686540286791953	0.5417218543046357
15.0	0.7806005852452718	0.6437932557797085	0.7918234078507674	0.6370860927152318

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.3411538223044901	0.8676189073774113	0.3075984957311024	0.8993377483443709
2.0	0.24574074227400167	0.9082609335885731	0.29175174034347 66	0.8913907284768212
3.0	0.1403492566642244	0.9539095862170 52	0.3118864175005767	0.9033112582781457
4.0	0.08992448059496584	0.9692239729053158	0.3459977585430208	0.895364238410596
5.0	0.08596251009677146	0.9730525695773818	0.367643830361531	0.8927152317880794
6.0	0.09269628469057237	0.9683404505963775	0.27412661783838 35	0.9006622516556292
7.0	0.06765867732859741	0.9802680017670446	0.4023179418578 94	0.8900662251655629
8.0	0.06507028098658917	0.9796789868944191	0.4096575409051423	0.8741721854304636
9.0	0.05044966529382849	0.984243852157267	0.5278738800387242	0.8781456953642384
10.0	0.05134631736257916 4	0.9840965984391106	0.4600523962213437	0.8940397350993378
11.0	0.05437674582045443	0.9820350463849212	0.4463112767485558 6	0.9059602649006623
12.0	0.03087477153616626 6	0.991164776910617	0.468539835214 86	0.8966887417218543
13.0	0.05432680471747065	0.9824768075393904	0.3308251824622091 6	0.8980132450331125
14.0	0.04491443230763809	0.9852746281843616	0.3340450703387002	0.9019867549668874
15.0	0.03177864676696145	0.9908702694743042	0.5102061873951339	0.9059602649006623

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.36695481435773 13	0.8534825504343985	0.2622799914869431	0.8940397350993378
2.0	0.17837662403615 06	0.9321160359299072	0.2598913411658845	0.8993377483443709
3.0	0.0544086279851 4526	0.9832130761301723	0.3861179240353521 7	0.8980132450331125
4.0	0.01939088360827945 6	0.9944043587100574	0.4367219148688633 7	0.8887417218543047
5.0	0.00717923528075 1126	0.9985802091002798	0.5181955860089 41	0.8913907284768212
6.0	0.00652745689425585 7	0.9982329553821234	0.6443760657242078	0.8913907284768212
7.0	0.00333940511678 9683	0.9992637314092181	0.6632010208961189	0.8980132450331125
8.0	0.01001704671992614	0.9972021793550288	0.6813516282403725	0.8966887417218543
9.0	0.00686062037955 6894	0.9976439405094979	0.7168441519894689	0.8927152317880794
10.0	0.00327352608033 5434	0.9991164776910617	0.7750870639069418	0.8966887417218543
11.0	0.00105837355284 47435	0.9997054925636872	0.7896785680603 18	0.8927152317880794
12.0	0.00105886799589 09431	0.9984109851273745	0.8112721896313863	0.8834437086092716
13.0	0.01874336952167 3988	0.9939625975555882	0.5262912039757219	0.8993377483443709
14.0	0.01634701342423 2986	0.9954351347371521	0.5310672164672532	0.9059602649006623
15.0	0.00681198157612 5935	0.9985274628184362	0.5344373683666641	0.8913907284768212

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.6571844130912433	0.7392136651450449	0.4026934595484 4826	0.8331125828781457
2.0	0.3320592267326879	0.8642320718598144	0.3366708945875105	0.8609271523178808
3.0	0.2566555229128636	0.8986894419084082	0.3084777473815178	0.8781456953642384
4.0	0.2009521911619505 4	0.921661021940804	0.2961562172754814 7	0.8821192052980132
5.0	0.1461136856558431	0.9419820350463849	0.2932919487234597	0.8874172185430463
6.0	0.0975933185632271 33	0.9664261522603446	0.3106205446020651	0.8860927152317881
7.0	0.0552267217476642 74	0.9832130761301723	0.3448603205799468	0.8821192052980132
8.0	0.0285094027297259	0.9938153438374319	0.3493067164997276	0.8900662251655629
9.0	0.0149931475772161 48	0.9966131644824032	0.3835189431450808	0.8834437086092716
10.0	0.0077233477533832 5214	0.9991164776910617	0.4153670874827137	0.8874172185430463
11.0	0.0043855614659848 28	0.9991164776910617	0.4366869144516960 5	0.8874172185430463
12.0	0.0024051020014223 8	0.9997054925636872	0.4690871995325372	0.8887417218543047
13.0	0.0021072821140536 33	0.9994109851273745	0.5053571287600024	0.895364238410596
14.0	0.0006413133317354827	0.9977911942276543	0.5135010871654805	0.8834437086092716
15.0	0.0016290301800161 57	0.9995582388455309	0.5235416767058364	0.8834437086092716

(e)

Gambar D.20 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 15, *batch* 4 dan *learning rate* 10e-1 - 10e-5 pada model Cendol.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	10.807742398745601	0.33367692534236487	4.031611264379401	0.3033112582781457
2.0	9.401811378730462	0.33514946252392874	6.872785751443160 5	0.36026490066225164
3.0	9.664746519300485	0.329112060079517	9.919979037736592	0.3033112582781457
4.0	9.057184162844758	0.33382417906052125	9.757242039630288	0.36026490066225164
5.0	9.159659523775776	0.3453099690767192	5.701153805381374	0.3019867549668874
6.0	9.788560108175266	0.3467825062582 83	15.760410042812 95	0.36026490066225164
7.0	11.457502134556766	0.3357384773965 5427	12.889076265535856	0.36026490066225164
8.0	10.842133051655459	0.33676925342368894	8.252830879311812	0.33642384105960266
9.0	10.1276673106619 27	0.3445737004859373	5.299290151345103	0.3033112582781457
10.0	11.9335058865755	0.3347077013694596	22.861582585384973	0.36026490066225164
11.0	10.210797013888 23	0.33603298483286703	21.1247295680799	0.36026490066225164
12.0	9.60546411389597	0.33662199970548256	12.306015150170577	0.3033112582781457
13.0	10.931455346664636	0.32513620968929463	14.33347144377859	0.3033112582781457
14.0	11.517912698718769	0.3205713444264467 5	9.27610359317378	0.3033112582781457
15.0	11.562739094660055	0.33382417906052125	5.899401777669003	0.3033112582781457

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.9106400781546942	0.5803269032543071	0.8223762634553408	0.5867549668874172
2.0	0.8510680811759305	0.6424679723163 01	0.7977718726584786	0.6357615894039735
3.0	0.6742188607916253	0.7153585628037108	0.6186753117724468	0.7496688741721854
4.0	0.6626525753308241	0.7174201148579001	0.5738404429272601	0.7721854304635761
5.0	0.5508082497764041	0.7783831541746429	0.4586828115739 3204	0.8278145695364238
6.0	0.5198810885894004	0.8017964953615079	0.5240238304985197	0.7880794701986755
7.0	0.4254956374008502	0.8467088793992048	0.4521035624177832	0.8437086092715231
8.0	0.507856177909846	0.8054778383154174	0.5567550132933415	0.7960264900662252
9.0	0.5010364685796034	0.8225592696215579	0.628442051771 44	0.752317880794702
10.0	0.4666259890431 5494	0.8263878662936239	0.6944502468171873	0.7324503311258278
11.0	0.4380618778591618	0.837579148873509	0.5847829603835156	0.7926529801324503
12.0	0.4569848258941225	0.8308054778383154	0.6080118348723964	0.7549668874172185
13.0	0.5095165229662463	0.809895449860109	0.8703756299458052	0.6119205298013245
14.0	0.6035871222676672	0.7683699013400088	0.6621684897887079	0.7086092715231788
15.0	0.6641120423241414	0.7121189810042704	0.6758743819437529	0.695364238410596

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.3308978334576 0493	0.875570608157856	0.3749894357041309	0.8794701986754967
2.0	0.1998874546823 6985	0.9240170814313061	0.2504837148381691	0.895364238410596
3.0	0.1376380082058 7224	0.9505227506994551	0.407771236218 7939	0.9099337748344 37
4.0	0.1084645226873 3296	0.960830510970402	0.3220910918261 6597	0.8887417218543047
5.0	0.0839245256129 0421	0.9724635547047563	0.3731335574038033	0.8874172185430463
6.0	0.0705431714551 8826	0.9768811662494478	0.3838915619754085	0.8927152317880794
7.0	0.0498110656860313	0.9833603298483287	0.3770867718451068	0.8940397350993378
8.0	0.1245477033925 1955	0.9581799440435871	0.3525782584016 6523	0.9019867549668874
9.0	0.0337247895738 30606	0.9898394934472096	0.4482014003503 8714	0.8754966887417218
10.0	0.0423071624331 91969	0.9874834339567075	0.454958752545185	0.8980132450331125
11.0	0.0409928166737 27197	0.9861581504932999	0.4253977240541166	0.8993377483443709
12.0	0.0463262421752 03605	0.9848328670298925	0.4724585258297 7693	0.8834437086092716
13.0	0.0376263167278 8681	0.9877779413930202	0.3752087469417 9696	0.9006622516556292
14.0	0.1157104840713 0172	0.960830510970402	0.3589386656880 379	0.866225165562914
15.0	0.0790594168690 5082	0.9736415844500074	0.3970963423458 9575	0.895364238410596

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.3594405025855865	0.8583419233135592	0.2670205139787868	0.8927152317880794
2.0	0.1765901205497 1301	0.9304962450301 87	0.2438613238382 9376	0.9033112582781457
3.0	0.0432271921837 9107	0.9864526579296127	0.3593927058870 72	0.8993377483443709
4.0	0.0138461773246 62638	0.9957296421734649	0.5513616982277055	0.8887417218543047
5.0	0.0145625980856 9147	0.9944043587100574	0.4211088457137712	0.9033112582781457
6.0	0.0055909304804 87348	0.9983802091002798	0.5173140333866956	0.8966887417218543
7.0	0.0129371969213 10885	0.9961714033279341	0.5322648633568238	0.895364238410596
8.0	0.0075863678772 02408	0.9979384479458107	0.5563567699083969	0.8980132450331125
9.0	0.0058922653836 44756	0.9986747165365926	0.7150776260288503	0.8927152317880794
10.0	0.0041472418492 99975	0.9992637314092181	0.6323392413216952	0.904635761589404
11.0	0.0068488215690 75947	0.9982329553821234	0.5599172422656059	0.9006622516556292
12.0	0.0155395027975 11375	0.9957296421734649	0.5218447265774961	0.9019867549668874
13.0	0.0107418707808139	0.9976439405094979	0.4889322657207518	0.9019867549668874
14.0	0.0013651036479330198	0.9995582388455309	0.521046810484763	0.9006622516556292
15.0	0.0007193101002309538	0.9998527462818436	0.5852812964665334	0.8993377483443709

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.6885166056059274	0.7312619643646002	0.3945596237715922	0.8357615894039735
2.0	0.3277824149171968	0.8715947577676336	0.3207052888838868 3	0.8622516556291391
3.0	0.2523609192589971	0.9010455013989104	0.2892660420387 9835	0.8781456953642384
4.0	0.1897900414083 2495	0.9237225739949934	0.2762214523323 4685	0.8847682119205298
5.0	0.1284810387720 3046	0.9509645118539243	0.2944765773822 4065	0.8847682119205298
6.0	0.0756675510494 3555	0.975408629067884	0.3114961141628507	0.8940397350993378
7.0	0.0405422646153 7835	0.9898394934472096	0.3516845906367 7704	0.8821192052980132
8.0	0.0214562603768 2642	0.9954351347371521	0.3867046726735 8233	0.8794701986754967
9.0	0.0119273177603 2243	0.9977911942276543	0.3957617937129199	0.8781456953642384
10.0	0.0078914999347 75021	0.9985274628184362	0.4299213290289596	0.8821192052980132
11.0	0.0053996093577 887835	0.9986747165365926	0.4543547642401 1684	0.8794701986754967
12.0	0.0032718857867 603196	0.9992637314092181	0.4908045268440267	0.8781456953642384
13.0	0.0026792227586 215434	0.9995582388455309	0.5149630284396393	0.8847682119205298
14.0	0.0025327833237 1451	0.9997054925636872	0.5207231471953013	0.8821192052980132
15.0	0.0011933705660 871253	0.9997054925636872	0.5456268324812348	0.8847682119205298

(e)

Gambar D.21 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 15, *batch* 8 dan *learning rate* 10e-1 - 10e-5 pada model Cendol.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	10.769427146631066	0.3301428361066117	7.181829068535253	0.36026490066225164
2.0	11.889133834164893	0.34045059637755853	3.524549685026 47	0.36026490066225164
3.0	11.151975370618844	0.3355912236783979	8.585003766260648	0.36026490066225164
4.0	10.174981079267248	0.32984833867029895	6.705208708110608	0.36026490066225164
5.0	10.621823970013429	0.33868355175968196	21.638389707886647	0.36026490066225164
6.0	11.292549470273926 7	0.32734501546616404	8.922450808474892	0.3033112582781457
7.0	9.80854405201225 5	0.33058459726108086	13.832816425122713	0.36026490066225164
8.0	10.028010129156327	0.3288175526432042	6.699044838704561	0.36026490066225164
9.0	10.291768508959995	0.32484170225298187	5.08344965483013	0.33642384105960266
10.0	10.839758817909463	0.33308791046973935	5.125660053052401	0.33642384105960266
11.0	9.74165696565619	0.33500220880577236	2.212188838879936 63	0.36026490066225164
12.0	10.712394058493759	0.3392725666323075	10.993236376109875	0.3033112582781457
13.0	8.838360024214634	0.34015608894124577	8.598831317926708	0.36026490066225164
14.0	9.798532118691378	0.3486966045943 16	16.770015746668765	0.3033112582781457
15.0	11.54141073227153 4	0.3339714327786776 3	13.416999545007003	0.36026490066225164
16.0	11.029060063593 14	0.33411868649683407	4.299501060812097	0.36026490066225164
17.0	9.34388023678068 6	0.34015608894124577	13.6024903247230 92	0.3033112582781457
18.0	10.141115679617343	0.34030334265940215	9.883118835248446	0.32847682119205296
19.0	9.095245322855398	0.3333824179060521	7.486430376454403	0.33112582781456956
20.0	8.92201836903 89	0.34162862612280 96	8.205444657175164	0.36026490066225164

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	10.524850106070826	0.3408923955320277	7.003941399172332	0.36026490066225164
2.0	11.261670859387962	0.3385362980415256	2.840561471487346 6	0.33642384105960266
3.0	10.315836533991833	0.3280812840524223	3.379780961337842 4	0.33642384105960266
4.0	10.549547017252692	0.3227801501987925	2.337720733567288 3	0.36026490066225164
5.0	9.3645895081358 33	0.3345604476513032	10.283675961745413	0.3033112582781457
6.0	11.210013171397164	0.3279340303342659 4	7.847033048930921	0.36026490066225164
7.0	10.459875539699 91	0.3407451038138713	4.356328740872835	0.33642384105960266
8.0	10.924056942562613	0.3482550434398 4687	5.311022387052837	0.3033112582781457
9.0	9.964869963827908	0.3391253129141511	2.906306955688878	0.33642384105960266
10.0	9.690933192857443	0.3463407451038 1385	9.723852398966739	0.36291390728476682
11.0	10.333974667165 53	0.3348549550876 16	6.039409680115549	0.31390728476821195
12.0	10.402264072771487	0.3372110145781181	7.515638790632549	0.3152317880794702
13.0	10.667744764731264	0.3339714327786776 3	5.392193286669881	0.36158940397350993
14.0	9.409704055606406	0.3410396112501840 6	18.683671328895972	0.36953642384105996
15.0	10.282408572260 92	0.3344131939333 14684	7.959404277801513 5	0.26225165562913905
16.0	10.357572230173645	0.3394198203504638 6	4.774692387643613	0.3456953642384106
17.0	9.73751124925692	0.3294056675 15582975	5.025781838517 44	0.36026490066225164
18.0	8.644991981267086	0.3382417906052127 6	13.085824519709536	0.36556291390728 48
19.0	10.867690391022409	0.3345604476513032	9.917727173663406	0.3536423841059603
20.0	11.818487602493 386	0.3243999410985127	10.100490733196886	0.32980132450331123

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.3285714308890318	0.8727727875128847	0.24750651321864 05	0.9019867549668874
2.0	0.518349731928223	0.7783831541746429	0.3685600008619459	0.8622516556291391
3.0	0.2593834542859131	0.9051686055072891	0.3067114851780628	0.8794701986754967
4.0	0.16814403896723534	0.9402149904285083	0.3446793041927249 7	0.8781456953642384
5.0	0.13100577957211862	0.9567074068620233	0.3503844655437493	0.8847682119205298
6.0	0.10176341394279251	0.9649536150787807	0.4591390717014666 6	0.871523178807947
7.0	0.10274535898363012	0.9645118539243116	0.3955359150336957 3	0.8821192052980132
8.0	0.08518070655231676	0.970402002650567	0.4057384841585237 6	0.8834437086092716
9.0	0.07759915625500176	0.974672360477102	0.3904375420589196	0.8940397350993378
10.0	0.06875499727608125	0.9762925153768222	0.3963789714203142 5	0.8781456953642384
11.0	0.14393837401174855	0.9502282432631424	0.3444195127898925	0.9033112582781457
12.0	0.07481325804162661	0.9749668679134148	0.4288777260979833 6	0.9033112582781457
13.0	0.025320349384813094	0.9927845678103372	0.4614662473629179 7	0.9033112582781457
14.0	0.023326619088659895	0.9933735826829627	0.493028243817389	0.8781456953642384
15.0	0.034654978591375174	0.9889559711382713	0.5186009884070556	0.8913907284768212
16.0	0.039210105678367772	0.9870416726022382	0.4999412856423173	0.9046357615894404
17.0	0.047129825915138854	0.9845387595935797	0.4094898462345495	0.8993377483443709
18.0	0.08421814556952988	0.9749668679134148	0.4523823263123631 4	0.8847682119205298
19.0	0.040576801211279746	0.9864526579296127	0.4702589204240786 3	0.8900662251655629
20.0	0.030223661667805272	0.9916065380650861	0.5145613952049691	0.8807947019867549

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.3522274117089711 5	0.8617287586511 56	0.2798928093348973	0.8940397350993378
2.0	0.17192126714854278	0.9338830805477838	0.2585538021301006 5	0.895364238410596
3.0	0.05730271675670943	0.9824768075393904	0.3013456781351275	0.8940397350993378
4.0	0.012952625904307076	0.9958768958916213	0.5366048635777971	0.8940397350993378
5.0	0.011270042057941022	0.9967604182005596	0.4326443854071457	0.8927152317880794
6.0	0.011975102861870191	0.9964659107642468	0.4543635566232055 54	0.9019867549668874
7.0	0.005873816611443326	0.9974966867913415	0.7004091611702374	0.8927152317880794
8.0	0.011611237181145187	0.9957296421734649	0.6074570687745731	0.8847682119205298
9.0	0.009065746043051041	0.9973494330731851	0.5831109476533847	0.8980132450331125
10.0	0.007659579595545977	0.9970549256368724	0.585619719348932	0.8993377483443709
11.0	0.003492540161 3918974	0.9986747165365926	0.5916046653449162	0.8927152317880794
12.0	0.008732437092685471	0.9979184479458107	0.5570258552361864	0.9046357615894404
13.0	0.00291748609625314	0.9994109851273745	0.5491254834819972	0.9019867549668874
14.0	0.003375429983228 0624	0.9994109851273745	0.6062174899746101	0.9112582781456954
15.0	0.001232621176855092 8	0.9995582388455309	0.6581164753387 97	0.9033112582781457
16.0	0.000931731273806215 4	0.9997054925636872	0.6568491902679978	0.9046357615894404
17.0	0.012243284192270968	0.9961714033279341	0.6844784425255966	0.9006622516556292
18.0	0.001986591607832676 8	0.9992637314092181	0.695378433951804	0.9033112582781457
19.0	0.011399328977925548	0.9963186570460905	0.6466426573203008	0.9046357615894404
20.0	0.015993199839787 84	0.9961714033279341	0.4922802984298055 3	0.8913907284768212

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.6960674479375599	0.7340597850095715	0.4090297125279 0036	0.8304635761589404
2.0	0.3339492366468 2113	0.8692386982771315	0.3341253866686 6326	0.8609271523178808
3.0	0.2601079113981 0996	0.8995729642173464	0.3105467746132298	0.871523178807947
4.0	0.1945686595971 3024	0.9249006037402444	0.3040303429000471 6	0.8794701986754967
5.0	0.1263002111779 1618	0.9561183919893977	0.3128466339457142 7	0.8821192052980132
6.0	0.0702836734217 5071	0.9801207480488883	0.3561034096515198	0.8807947019867549
7.0	0.0367404757720 5291	0.991164776910617	0.3893705262263354 4	0.8821192052980132
8.0	0.0186786808798402 8	0.9966131644824032	0.4373813298056024 6	0.8807947019867549
9.0	0.0095752053955048	0.9982329555821234	0.4580924673818793	0.8794701986754967
10.0	0.0054688672350780045	0.9991164776910617	0.507192369389 17	0.8754966887417218
11.0	0.0038766006792599864	0.9992637314092181	0.5216977567501951	0.8834437086092716
12.0	0.0029662289233857585	0.9997054925636872	0.5486787226086258	0.8794701986754967
13.0	0.0025217249568489594	0.9991164776910617	0.5418741330502694	0.8807947019867549
14.0	0.0010850421845921777	0.9998527462818436	0.5780025974759682	0.8847682119205298
15.0	0.0008469057828936106	0.9998527462818436	0.6056320662647762	0.8807947019867549
16.0	0.000837282056790193	0.9998527462818436	0.6315024057241316	0.8781456953642384
17.0	0.000785333640871743 8	0.9998527462818436	0.6480008299570966	0.8741721854304636
18.0	0.0026434471206417 01	0.9994109851273745	0.6566466170521 62	0.8807947019867549
19.0	0.000602004371211713	0.9997054925636872	0.6705321821045129	0.8807947019867549
20.0	0.000463529688939674	0.9998527462818436	0.6909929332739394	0.8847682119205298

(e)

Gambar D.22 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 20, *batch* 2 dan *learning rate* 10e-1 - 10e-5 pada model Cendol.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	11.4490082523707065	0.33780002945074360	5.38637428785625 3	0.36026490066225164
2.0	9.2518972053633713	0.3436901781769 99	11.6108332132038 31	0.36026490066225164
3.0	10.4983482716080 71	0.3352967162420851	8.9013315250999 06	0.3364238410596266
4.0	9.8551138573159 15	0.3322043881608 0106	8.6436075411344 82	0.3033112582781457
5.0	10.7384200099640 65	0.3295538212339 613	6.7721627059735 75	0.3033112582781457
6.0	11.7182120944080 42	0.3385362980415 256	4.7736053159362 39	0.3364238410596266
7.0	10.4801103405312 17	0.3308791046973 936	1.4534129713710 986	0.3364238410596266
8.0	9.2812810528264 31	0.3475187748490 6496	10.2562081989489 1	0.3364238410596266
9.0	9.9610340436931 5	0.3398615815049 33	11.8474462960895 74	0.3033112582781457
10.0	9.7124902024005 13	0.3304373435429 245	11.1833798508895 07	0.3033112582781457
11.0	8.9309646224218 11	0.3330879104697 3935	9.3634589521508 47	0.36026490066225164
12.0	11.9657630186760 52	0.3333824179060 521	2.5656125495308 32	0.3364238410596266
13.0	10.4437808250510 38	0.3319098807244 883	12.4994905421608 37	0.3033112582781457
14.0	10.5093197681896 11	0.3358857311147 1065	1.7953856317620 53	0.36026490066225164
15.0	9.8893790499902 87	0.3405978500957 149	7.6947847866260 86	0.3033112582781457
16.0	10.8254639478257 74	0.3380945568870 564	14.3691884241606 06	0.3033112582781457
17.0	10.4706880106942 82	0.3282285377057 87	9.8396981490285 76	0.36026490066225164
18.0	10.3369301482420 79	0.3317626270063 319	5.1038386922133 6	0.3364238410596266
19.0	9.3718434721406 98	0.3363274922691 798	9.9709091588070 52	0.3033112582781457
20.0	9.6938380806830 81	0.3286702989250 4784	18.3290017680117 96	0.3033112582781457

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.1713054767677026	0.3305843597261080 86	1.0883734150936728	0.4122285430463764
2.0	1.2253135513176744	0.3788838160163746	1.0614548931517668	0.4145695364238403
3.0	0.8694753012542028	0.5759092917096157	0.8279668798572138	0.5960264900662252
4.0	0.7332974988769727	0.6627889854218819	0.7649060403045855	0.6397350993377483
5.0	1.2149742776955816	0.6387866293623914	2.1207784549186104	0.4463576158940397
6.0	1.3715220423606176	0.5329112060079517	0.9385779885869278	0.5589403973509933
7.0	0.8164746119290835	0.6383448682079222	0.8405127484547464	0.6026490066225165
8.0	0.8287141999521581	0.6172875865115595	0.9611850794992949	0.5324503311258278
9.0	0.8226188173423246	0.6049182741864232	0.7384141291442671	0.6463576158940397
10.0	0.6390603907204488	0.7213959652481226	0.6092661024708497	0.7602649006622516
11.0	0.6624140533474927	0.7160310998952746	0.6491329050377795	0.6887417218543046
12.0	0.6705284031070725	0.7004859372699916	0.7293898232673344	0.6437086092715232
13.0	0.6748922975959851	0.6951848034162863	0.7245712832400674	0.6609271523178808
14.0	0.631591414613704	0.7231630098659991	0.936888823932723	0.6490066225165563
15.0	0.5661994159414715	0.7570313650419673	1.2165015844922318	0.5933774834437087
16.0	0.5884889934400647	0.7520247386246502	0.5665133435475199	0.7589403973509934
17.0	0.4626749669266393	0.8203504038492122	0.5522940963506698	0.8105960264900662
18.0	0.4203511873178965	0.839493447209542	0.9212902012624239	0.7456953642384105
19.0	0.3864197482544714	0.8580474156972464	0.4701519596733545	0.8278145695364238
20.0	0.3710588401071595 6	0.8592254454424975	0.5322872240684534	0.8185430463576159

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.324386649454222	0.8773376527757326	0.32974362026679477	0.9006622516556292
2.0	0.19834225757134744	0.9268149020762775	0.2699349399533515	0.895364238410596
3.0	0.23680990118347164	0.9141510823148284	0.2871119398623705	0.8768211920529801
4.0	0.1955782877171886	0.9278456781033722	0.31419331125522915	0.8754966887417218
5.0	0.13098951077733317	0.953909586217052	0.2998538074622813	0.8980132450331125
6.0	0.07528648119496875	0.9765066588131135	0.3195629657981417	0.8768211920529801
7.0	0.16435926387106942	0.9396259755558828	0.3065779793517737	0.8860927152317881
8.0	0.11769673303316772	0.9617140332793404	0.3304132752488122	0.8940397350993378
9.0	0.050951045766264 12	0.9838020910027978	0.4372432790350 4384	0.8980132450331125
10.0	0.06885182271244616	0.9768811662494478	0.3499979661900158	0.8966887417218543
11.0	0.057151254324810975	0.9820350463849212	0.3270758099045 2123	0.9006622516556292
12.0	0.056174951514755	0.9796789868944191	0.3709528448629977 3	0.8940397350993378
13.0	0.038296221110027284	0.9867471653659254	0.5466390656301212	0.9059602649006623
14.0	0.052669198120882 09	0.9832130761301723	0.3176091247164693 5	0.8993377483443709
15.0	0.056184240232157 82	0.9810042703578266	0.2867388239081361	0.909933774834437
16.0	0.038858255426325296	0.9871889265203947	0.3818897127382163	0.8993377483443709
17.0	0.048012942208007 82	0.9835075835566485	0.4040667515513777 2	0.9112582781456954
18.0	0.039104910514954 24	0.9864256579296127	0.4425242571111 9464	0.9046357615894 04
19.0	0.135853396896924 55	0.9578854366072743	0.3938734185146658	0.8701986754966887
20.0	0.232887579603131 67	0.9182741864232072	0.4038147726133247	0.8529801324503311

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.3581145572526443	0.8586364305698719	0.2720570703919389	0.895364238410596
2.0	0.17240567588824 91	0.9319687822117508	0.2521765216860283	0.8993377483443709
3.0	0.05129397882736648	0.9851273744662052	0.4177251504277909	0.9059602649006623
4.0	0.01498643140897 1658	0.9958768958916213	0.4218666220350171	0.8980132450331125
5.0	0.00917233849879944	0.9977911942276543	0.5336921042648005	0.904635761589404
6.0	0.01380658836614657 18	0.9957296421734649	0.4748593812962125	0.895364238410596
7.0	0.01356816831463749	0.9964659107642468	0.4635098051340647 6	0.9059602649006623
8.0	0.00857230563361588 8	0.9974966867913415	0.5198776672217599	0.895364238410596
9.0	0.00630591551888171 67	0.9989692239729053	0.5583646903356375	0.9006622516556292
10.0	0.00526009304476946	0.9985274628184362	0.6543866426447787 3	0.8927152317880794
11.0	0.00155606044081993316	0.9997054925636872	0.6737891381297986	0.8993377483443709
12.0	0.00062634051495939 31	0.9997054925636872	0.7613088130331399	0.8966887417218543
13.0	0.00329127017888074	0.9989692239729053	0.8056427366986596	0.8927152317880794
14.0	0.02313030116037524 3	0.9927845678103372	0.6423903100735785	0.8927152317880794
15.0	0.00560475970778883 5	0.9986747165365926	0.5818251710359905	0.8927152317880794
16.0	0.00535215046980112 8	0.998821970254749	0.5915261817015945	0.8887417218543047
17.0	0.00345783387334774 9	0.998821970254749	0.6618963278867 34	0.8966887417218543
18.0	0.00744867782010796 9	0.9976439405094979	0.5702027456420901	0.8940397350993378
19.0	0.00693752531103572 1	0.9977911942276543	0.5843507016297412	0.8980132450331125
20.0	0.00363649421360787 76	0.9986747165365926	0.6010660782903511	0.8980132450331125

(d)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.6881195276062958	0.7261080842912 68	0.4096509211157 4974	0.8251655629139073
2.0	0.3295761032163816	0.8643793255779708	0.3336633464027392	0.8529801324503311
3.0	0.2549977326179 8775	0.8953026063908114	0.3030182643842 5405	0.871523178807947
4.0	0.1879657540413868	0.9260786334854955	0.2910271999034 0503	0.8807947019867549
5.0	0.1248499501937533	0.9522897953173317	0.2880727142928 8545	0.8887417218543047
6.0	0.0701922074586 1224	0.9790899972021793 6	0.3086829270003 3634	0.8874172185430463
7.0	0.0345596928779941 9	0.9920482992195553	0.3335484679489 6537	0.8860927152317881
8.0	0.0162458265919643	0.9973494313073185 1	0.3572835595230572	0.8860927152317881
9.0	0.00826168592626019 7	0.998821970254749	0.4005577178600924	0.8874172185430463
10.0	0.00371996481311 29087	0.9997054925636872	0.4264463707424798	0.8847682119205298
11.0	0.00387886615245482 65	0.9995582388455309	0.4641021940569963	0.8900662251655629
12.0	0.00177539617406052 88	0.9995582388455309	0.4910869034266828	0.8887417218543047
13.0	0.00153291444257 1321	0.9997054925636872	0.5497340376055179	0.8847682119205298
14.0	0.00231952060425126 78	0.9995582388455309	0.5327743792293212	0.8860927152317881
15.0	0.00088410687690462 22	0.9998527462818436	0.5535714627164312	0.8874172185430463
16.0	0.00060356055614920 8	0.9997054925636872	0.5748204363734801	0.8860927152317881
17.0	0.00073668652509360 38	0.9998527462818436	0.6149601705573523	0.8847682119205298
18.0	0.00068804345554812 39	0.9998527462818436	0.6131099247406988	0.8860927152317881
19.0	0.00071355079642664 13	0.9997054925636872	0.6420033432088147	0.8847682119205298
20.0	0.00049613404284043 54	0.9998527462818436	0.6524603743284244	0.8847682119205298

(e)

Gambar D.23 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 20, *batch* 4 dan *learning rate* 10e-1 - 10e-5 pada model Cendol.

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	11.751310827524277	0.33456044765133032	16.794897024255505	0.36026490066225164
2.0	11.284403306224743	0.3288175526432042	10.02777388723273	0.33642384105960266
3.0	10.16100639252275	0.33029008898247681	7.50579171431692	0.36026490066225164
4.0	10.149623191117959	0.34000883522308894	13.368612344641434	0.36026490066225164
5.0	10.021403255956894	0.33279340330334266	6.280206140718962	0.33642384105960266
6.0	9.287587104753555	0.32528346340745 1	8.209149846627774	0.36026490066225164
7.0	11.720517703585406	0.32867029892504784	15.434232455805729	0.3033112582781457
8.0	11.298557606640615	0.33500220880577236	3.525071536867242 3	0.36026490066225164
9.0	9.575615801552942	0.32557797084376383	13.212159964912816	0.3033112582781457
10.0	10.18948031869776	0.3301428361066117	4.4836585195440 99	0.33642384105960266
11.0	10.222226828364336	0.33824179060521276	17.818407289605393	0.3033112582781457
12.0	12.26509017152415 6	0.32425268738035634	8.2939814140922 15	0.33642384105960266
13.0	10.846788459236967	0.33029008898247681	27.023849668000874	0.36026490066225164
14.0	10.502846636887293	0.33294065675158296	11.286116951312963	0.33642384105960266
15.0	10.074053902999532	0.3370637608599617	8.781342541544062	0.36026490066225164
16.0	9.321342183156345	0.3392725666323075	10.950161764496525	0.3033112582781457
17.0	12.148184650637937	0.32719776174348403	9.195709249847814	0.36026490066225164
18.0	8.764015647070428	0.33883080547783834	11.283159411580 94	0.3033112582781457
19.0	9.466400515345157	0.34059785009571 49	11.656208091033132	0.36026490066225164
20.0	13.45276764726751	0.326019731998233	15.025172981462 98	0.36026490066225164

(a)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	1.0317228794168105	0.48166691208953003	0.8962097920869526	0.5801324503311258
2.0	0.9290640483334994	0.5582388455308497	0.7955655618717796	0.6013245033112583
3.0	0.795704836997744 3	0.6196436460020616	0.697747992841821	0.6847682119205298
4.0	0.9971360298854303	0.5651597702841997	1.8648969192253917	0.3986754966887417 5
5.0	0.9035422149058365	0.5454277720512443	0.8666495345140758	0.5788079470198676
6.0	0.7974525876474886	0.6099249006037403	0.8237378998806603	0.5973509933774834
7.0	0.8172484247718178	0.6146370195847445	0.7676013134027783	0.6145695364238841
8.0	0.8159134227023389	0.6177293476660286	0.768811003157967	0.6
9.0	0.7193813937572484	0.6720659696657341	0.7193501353263855	0.6609271523178808
10.0	0.6398873568125271	0.7244882933294066	0.6323361541095532	0.7099337748344371
11.0	0.5793417777680114	0.7614489765866588	0.5841383204648369	0.7364238410596027
12.0	0.5579981075553717	0.7661610955876631	0.6407109346828963	0.7311258278145696
13.0	0.5468426604697084	0.7677808864673833	0.6561720968861329	0.6940397350993377
14.0	0.8008049243909732	0.6832572522456192	0.6626560085698178	0.7324503311258278
15.0	0.8901624923179231	0.5859225445442497	0.7726351119970021	0.6304635761589404
16.0	0.6268722237876504	0.7321454866735385	0.9949967643148021	0.5589403973509933
17.0	0.5804273919811203	0.7744073037844206	0.6080216908141186	0.7735099337748345
18.0	0.5480756853719201	0.7882491532911206	0.6084547795747456	0.7655629139072848
19.0	0.4130654765135660 6	0.847150640553674	0.5104944989085197	0.8119205298013245
20.0	0.4081295286617883 7	0.8545133264614931	0.5498083770667251	0.8026490066225166

(b)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.3299298972580845	0.8721837726402591	0.3286176766526248	0.8953642384105960
2.0	0.2009230133570298 6	0.9229863054042114	0.2689589590079298	0.9006622516556292
3.0	0.1287785925527658	0.9536150787807393	0.2942592138369371 5	0.8993377483443709
4.0	0.0872890138578181 9	0.9696657134059785	0.4084995435036130 6	0.8834437086092716
5.0	0.0912373366078052 8	0.9684877043145339	0.3735446197492389	0.8900662251655629
6.0	0.0706634042760644	0.9762921513768222	0.3396452304833617 6	0.8953642384105960
7.0	0.0611608966123428234	0.9793844794581064	0.4301013464892381	0.8940397350993378
8.0	0.1069891626742969 8	0.9658371373877 19	0.9685045777182 83	0.6384105960264901
9.0	0.260423321074650 4	0.9079664261522603	0.4170249884654032 6	0.8807947019867549
10.0	0.0793143233941984 2	0.9731998232955382	0.4033488428845195	0.8887417218543047
11.0	0.0446873991411150 25	0.9855691356206744	0.4773165430003581	0.8900662251655629
12.0	0.0419217961327089 45	0.9855691356206744	0.500206688453909	0.8900662251655629
13.0	0.0439054312263845 8	0.9860108967751435	0.4376867448237087 3	0.8953642384105960
14.0	0.1037608585897176 3	0.9643646002061552	0.4879558736556547	0.8092715231788079
15.0	0.1642436275503934	0.9421292887645413	0.3688717745538605	0.8662251655629514
16.0	0.0932471889019883 4	0.9684877043145339	0.3881761888973415	0.8741721854304636
17.0	0.0937239119542191 7	0.9671622085511265	0.3971388881486889	0.8913907284768212
18.0	0.0459157235569263 6	0.9851273744662052	0.3957421749242042	0.8821192052980132
19.0	0.0761576708728374 7	0.9764394050949786	0.4296567738693403 7	0.8701986754966887
20.0	0.0555212443193776 74	0.9818877926667648	0.4982458709003894	0.8834437086092716

(c)

EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.3608428267027099	0.8570166396701516	0.2630716120186997	0.9033112582781457
2.0	0.1816854147281381 5	0.9313797673391253	0.250926115543361	0.9033112582781457
3.0	0.0619028601363505 3	0.979237225739 95	0.3352842421120792 4	0.9152317880794701
4.0	0.0158626372515 9012	0.9955823884553084	0.4534720912 00475 05	0.8880132450331125
5.0	0.0155435999089951 67	0.9949933735826829	0.4492294941614569 7	0.8993377483443709
6.0	0.0043033702072036 52	0.998821970254749	0.5852477234824379	0.9019867549668874
7.0	0.0155679473812528 18	0.9949933735826829	0.4177942825145835 6	0.9086092715231788
8.0	0.0121898687956157 53	0.9986024149609777	0.4462586668726975	0.9059602649006623
9.0	0.0087697359812172 82	0.9973494330731851	0.4118022682639093 7	0.9086092715231788
10.0	0.0075545376647627 1	0.9973494330731851	0.5647302454865953	0.9006622516556292
11.0	0.0015864960998864196	0.9992637314092181	0.6618302158016838	0.9086092715231788
12.0	0.0007228627180750978	0.9998527462818436	0.6758225007235353	0.9059602649006623
13.0	0.0013589312746044 42	0.9998527462818436	0.686339179477696	0.9086092715231788
14.0	0.0011008138306765 92	0.9997054925636872	0.7281290359661194	0.9046357615894 04
15.0	0.0190307475972830 15	0.9945516124282138	0.4838580032458259 5	0.9019867549668874
16.0	0.0093637019197955 3	0.996907671918716	0.5647245147185 65	0.9019867549668874
17.0	0.0037945881294702767	0.9986747165365926	0.5460815608070023	0.9019867549668874
18.0	0.0075817186595957 91	0.9972021793550288	0.6566750723168489	0.8940397350993378
19.0	0.0092855682425819 78	0.9970549256368724	0.5317676197509699	0.8900662251655629
20.0	0.0010894322277007803	0.9997054925636872	0.6844533282299907	0.9006622516556292

(d)

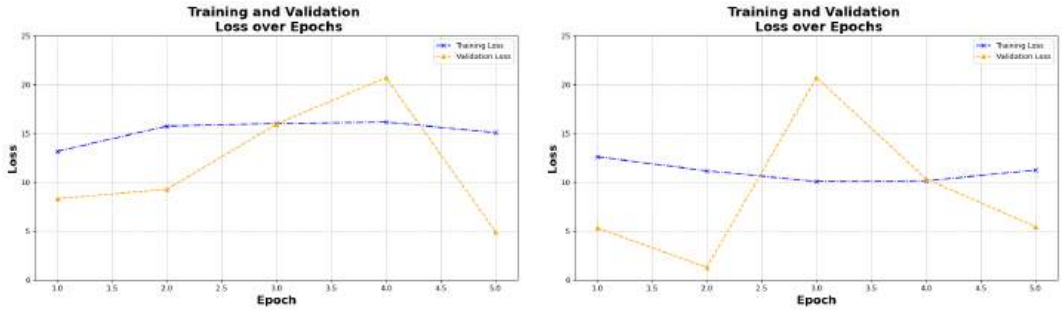
EPOCH	TRAINING LOSS	TRAINING ACCURACY	VALIDATION LOSS	VALIDATION ACCURACY
1.0	0.6742495414400555	0.7224267412752172	0.4125872824144991	0.8291390728476821
2.0	0.3321382063665 8564	0.8657046090413782	0.3372002718283942	0.8503311258278146
3.0	0.2580059655501 5914	0.8979531733176263	0.2995891050092484	0.871523178807947
4.0	0.1962593401866 1323	0.9228390516860551	0.2874055147072986 4	0.8860927152317881
5.0	0.1300830346784 0565	0.9540568399352084	0.2983925082745324 5	0.8781456953642384
6.0	0.0743835529547661 73	0.9771756736857605	0.3155146842577347 7	0.8794701986754967
7.0	0.0393755083896437 24	0.9898394934472096	0.339447284815526 6	0.8913907284768212
8.0	0.0195813032501294 64	0.9960241496097777	0.364557184961679 6	0.8874172185430463
9.0	0.0101511757921955 792	0.9977911942276543	0.3978620487450465	0.8900662251655629
10.0	0.0059872737 91800591	0.9992637314092181	0.423263748698886 2	0.8900662251655629
11.0	0.0028428529780364 59	0.9997054925636872	0.4452069953448556	0.8900662251655629
12.0	0.0027015064640317 71	0.9995582388455309	0.4689052924181 4205	0.8940397350993378
13.0	0.0016068138228487 478	0.9995582388455309	0.4873670414263247 5	0.8900662251655629
14.0	0.0015491552473766643	0.9994109851273745	0.5105653412975555	0.8927152317880794
15.0	0.0009414323171071732	0.9998527462818436	0.5442087758339766	0.8966887417218543
16.0	0.0038460470522018 59	0.9985274628184362	0.5658449495847124	0.8900662251655629
17.0	0.0014330805598569655	0.9995582388455309	0.5538764265411852	0.8874172185430463
18.0	0.0006166882221363388	0.9997054925636872	0.5725663045440964	0.8927152317880794
19.0	0.0006044141998884861	0.9997054925636872	0.5904601941529013	0.8927152317880794
20.0	0.0005925336329183205	0.9997054925636872	0.6043620883084785	0.8940397350993378

(e)

Gambar D.24 Gambar (a,b,c,d,e) merupakan tabel hasil nilai *training loss*, nilai *training accuracy*, nilai *validasi loss*, dan nilai *validasi accuracy* pada *epoch* 20, *batch* 8 dan *learning rate* 10e-1 - 10e-5 pada model Cendol.

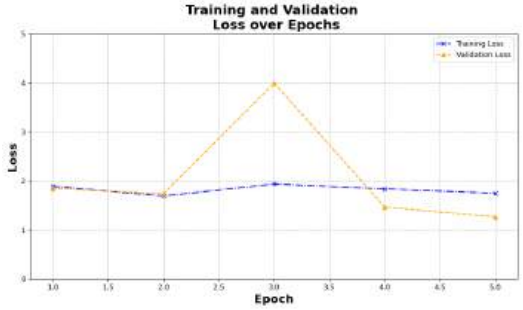
LAMPIRAN IV B

Cross-Entropy Loss

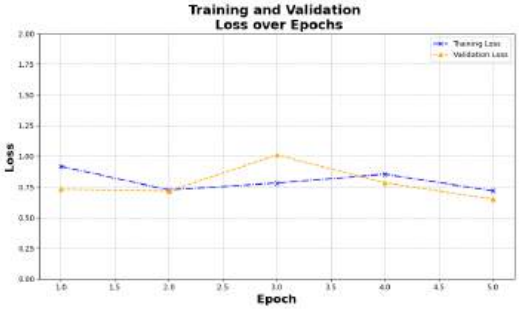


(a)

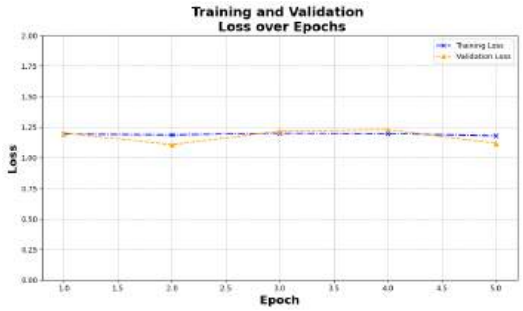
(b)



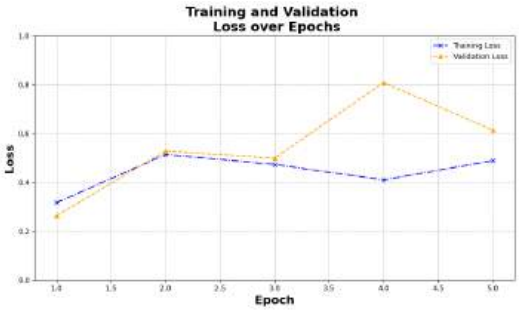
(c)



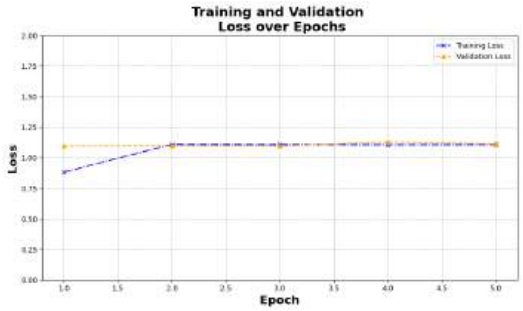
(d)



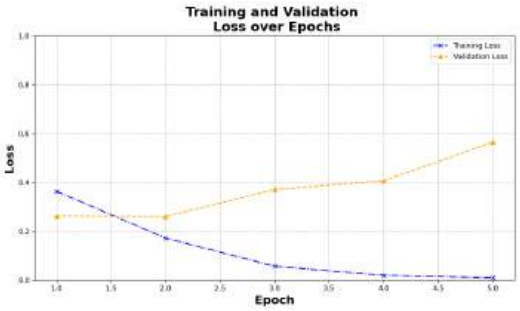
(e)



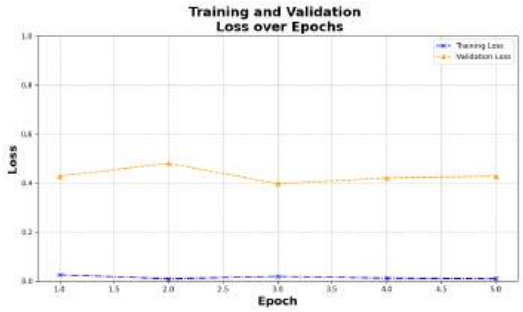
(f)



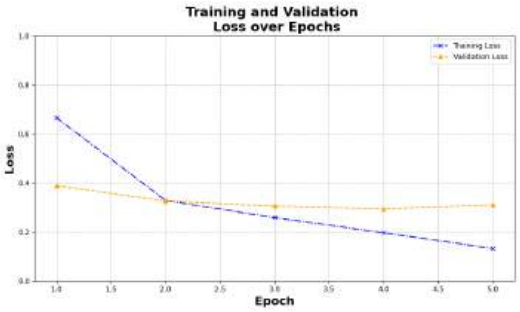
(g)



(h)

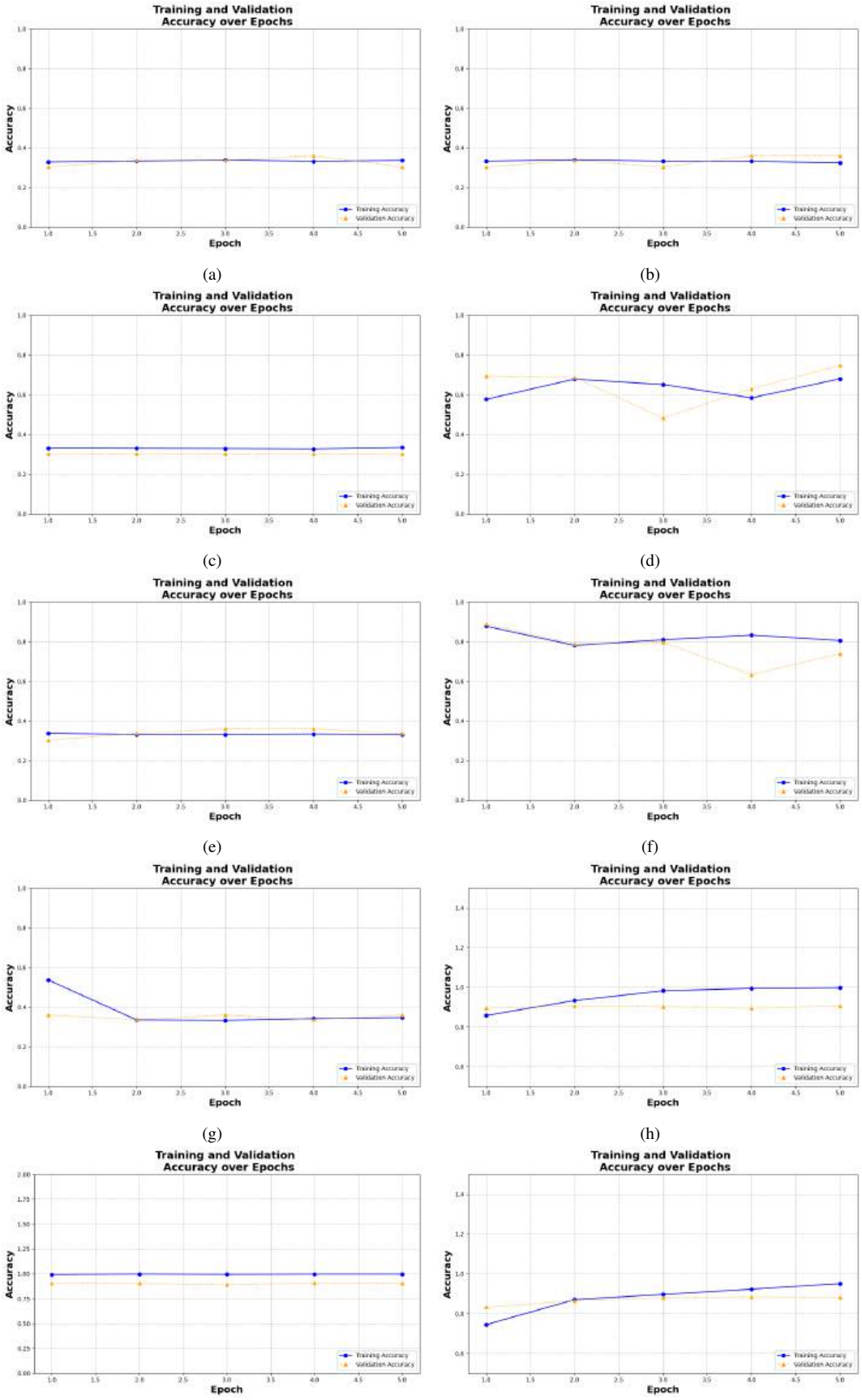


(i)

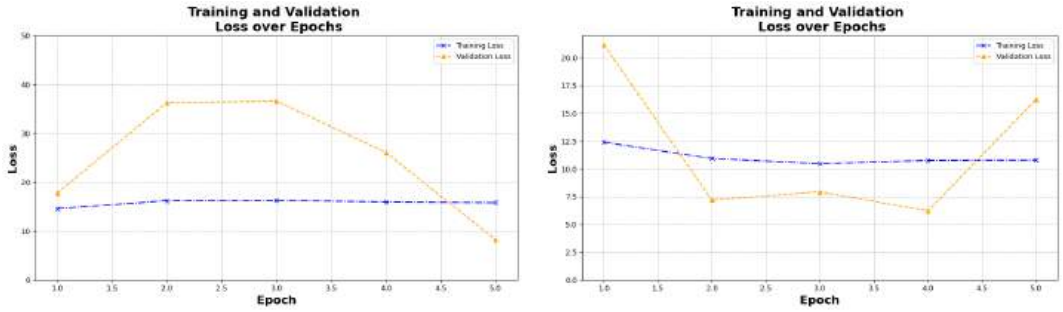


(j)

Gambar D.25 *Loss* IndoBERT dan Cendol pada *epoch* 5 dengan *batch size* 2: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *loss* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *loss* Cendol.

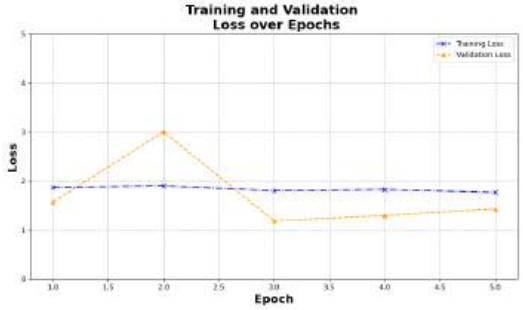


Gambar D.26 *Accuracy* IndoBERT dan Cendol pada *epoch* 5 dengan *batch size* 2: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *accuracy* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *accuracy* Cendol.

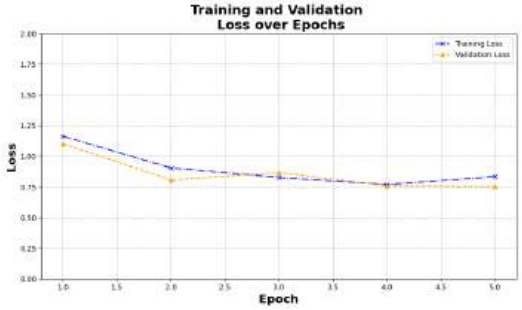


(a)

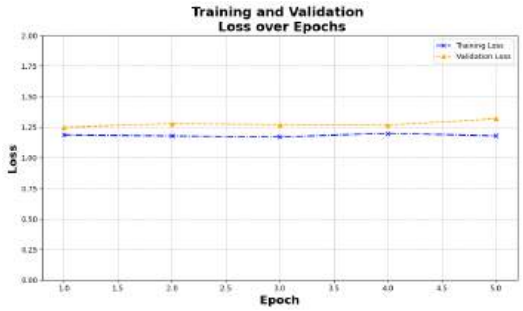
(b)



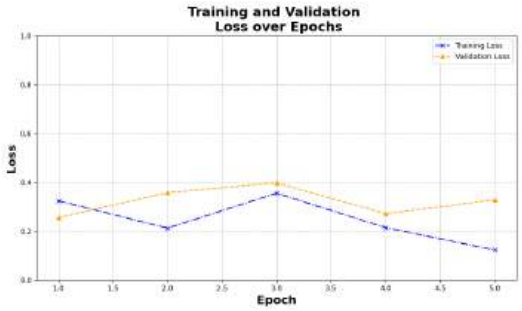
(c)



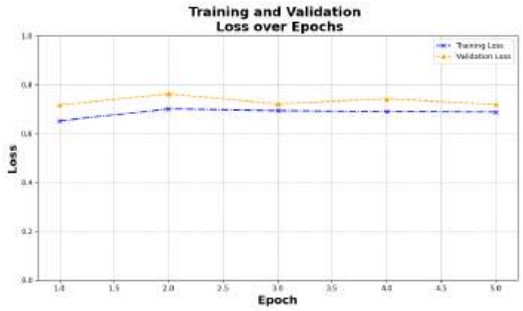
(d)



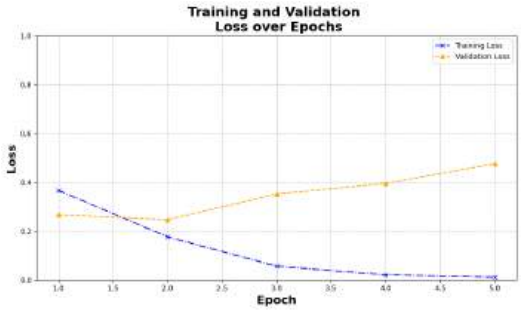
(e)



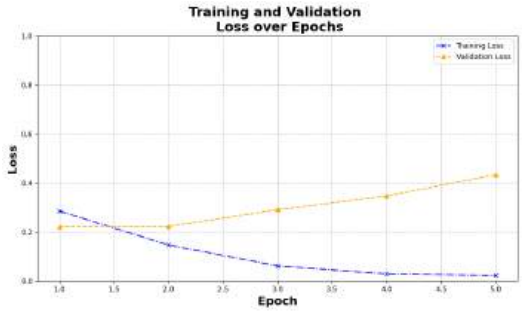
(f)



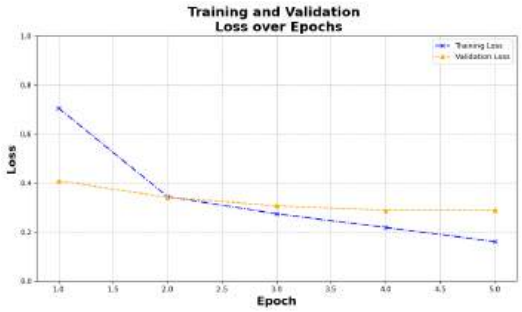
(g)



(h)

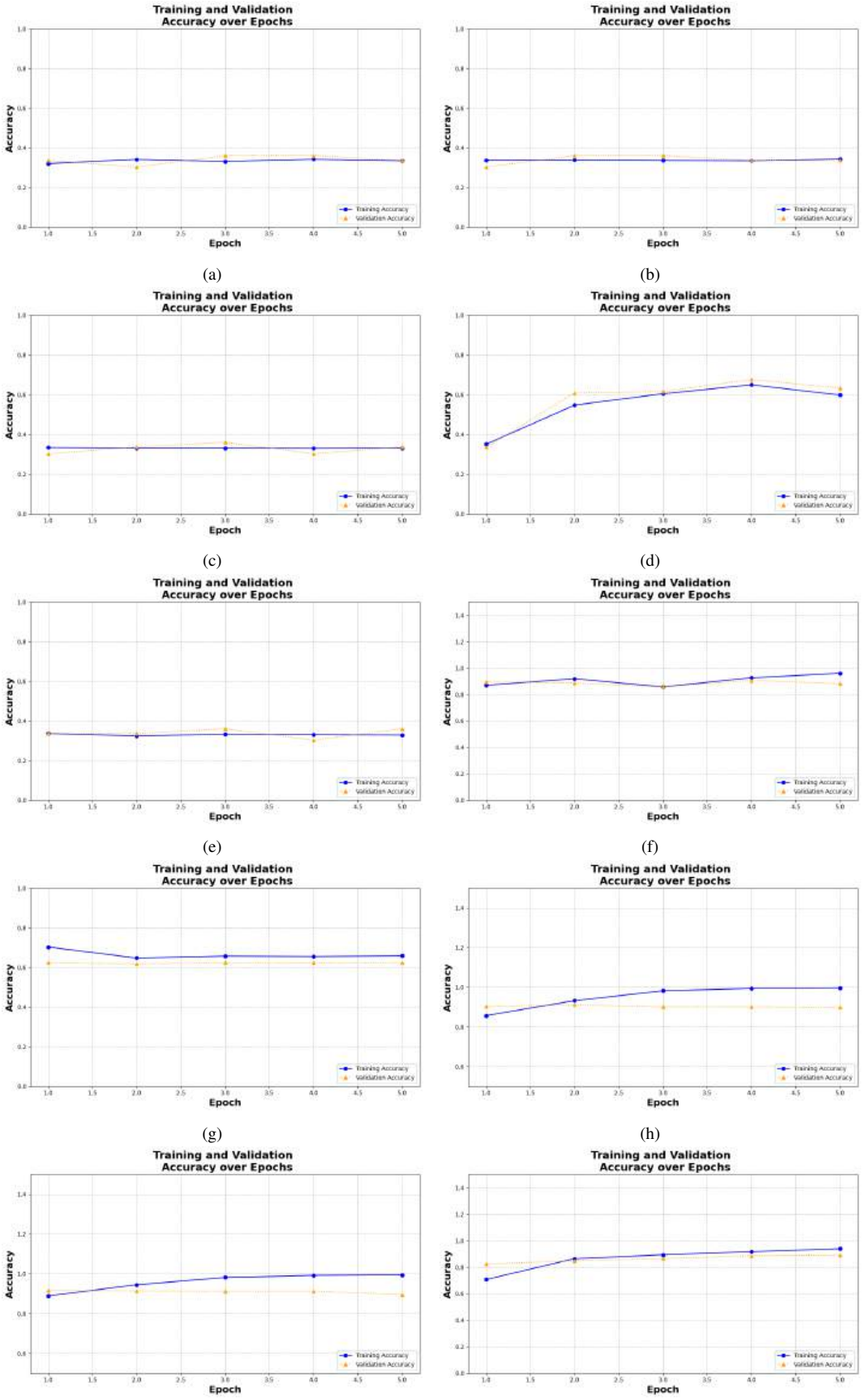


(i)

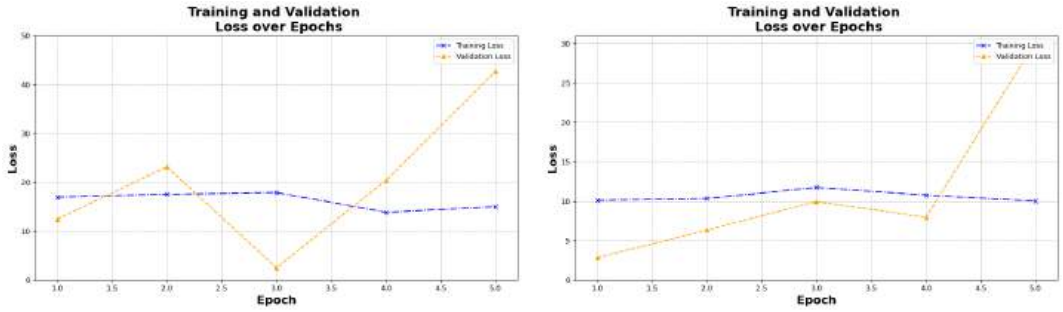


(j)

Gambar D.27 *Loss* IndoBERT dan Cendol pada *epoch* 5 dengan *batch size* 4: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *loss* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *loss* Cendol.

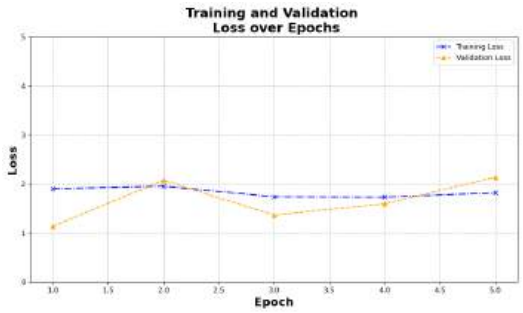


Gambar D.28 *Accuracy* IndoBERT dan Cendol pada *epoch* 5 dengan *batch size* 4: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 01e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *accuracy* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *accuracy* Cendol.

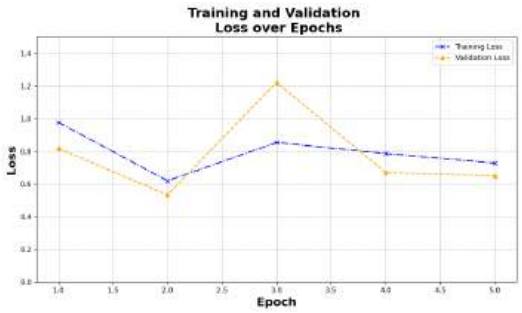


(a)

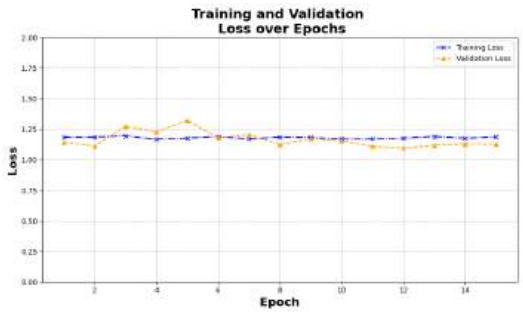
(b)



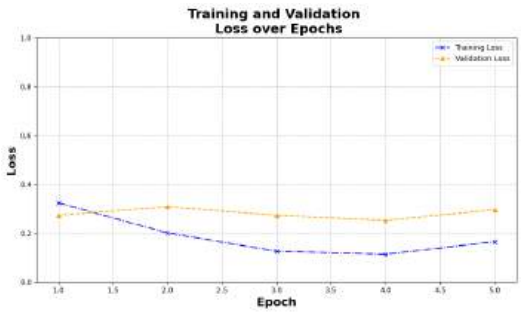
(c)



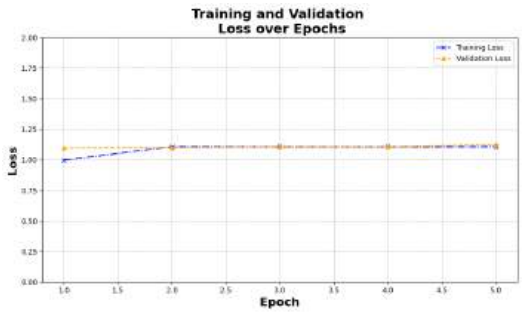
(d)



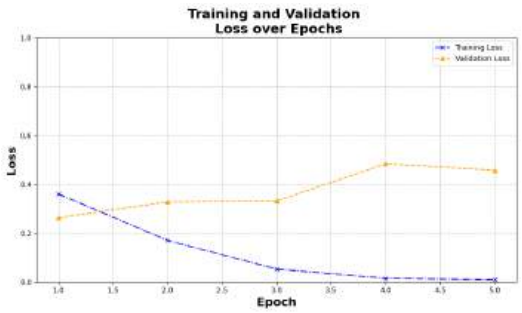
(e)



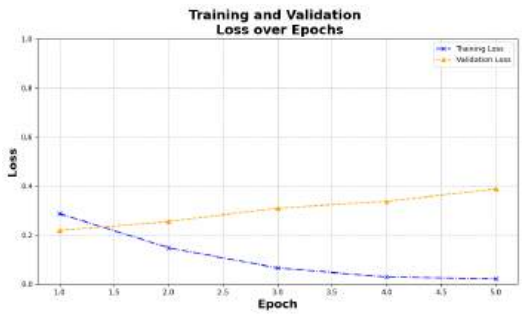
(f)



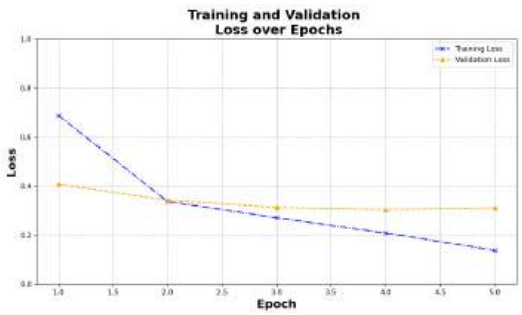
(g)



(h)

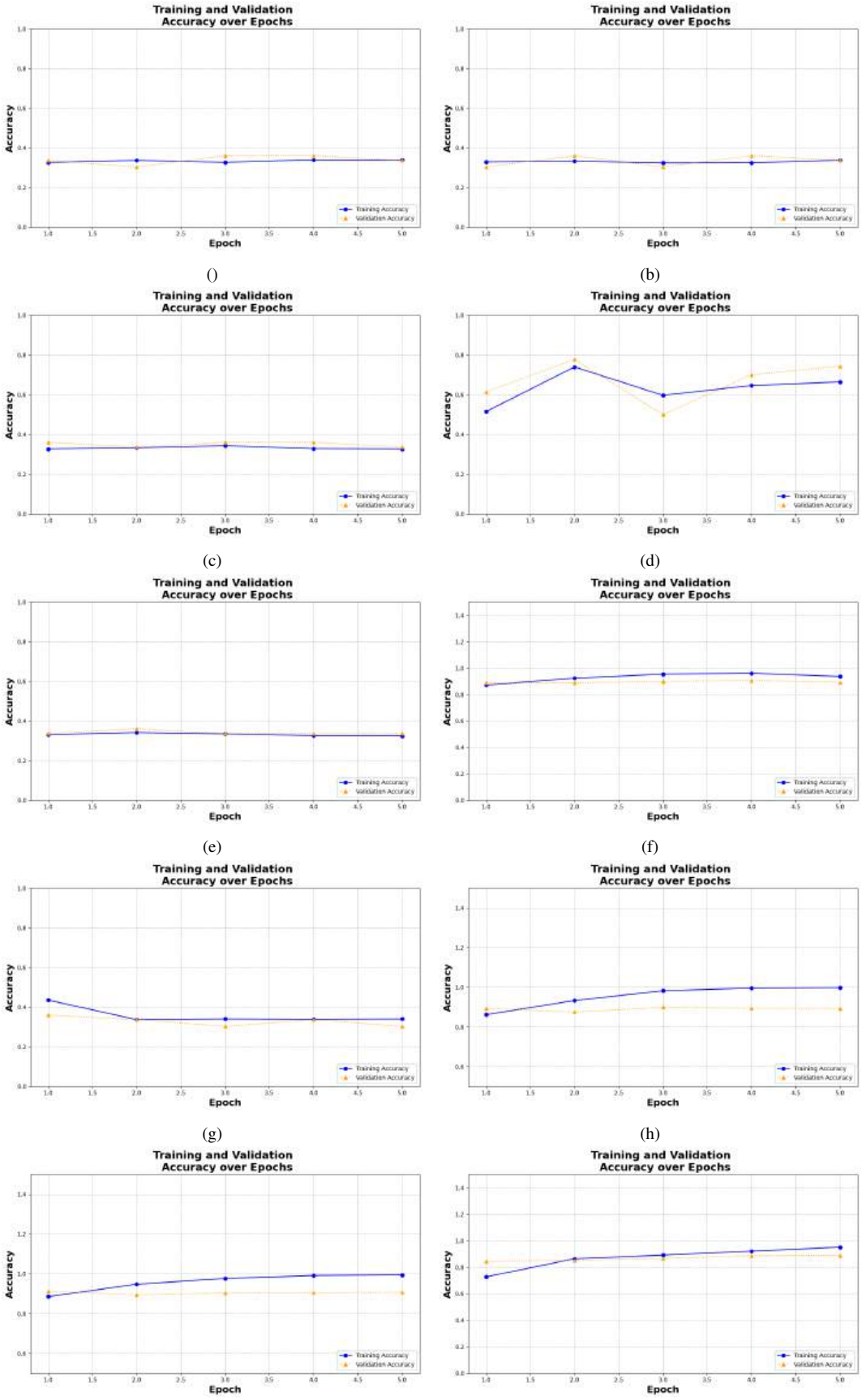


(i)



(j)

Gambar D.29 *Loss* IndoBERT dan Cendol pada *epoch* 5 dengan *batch size* 8: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *loss* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *loss* Cendol.



() (b)

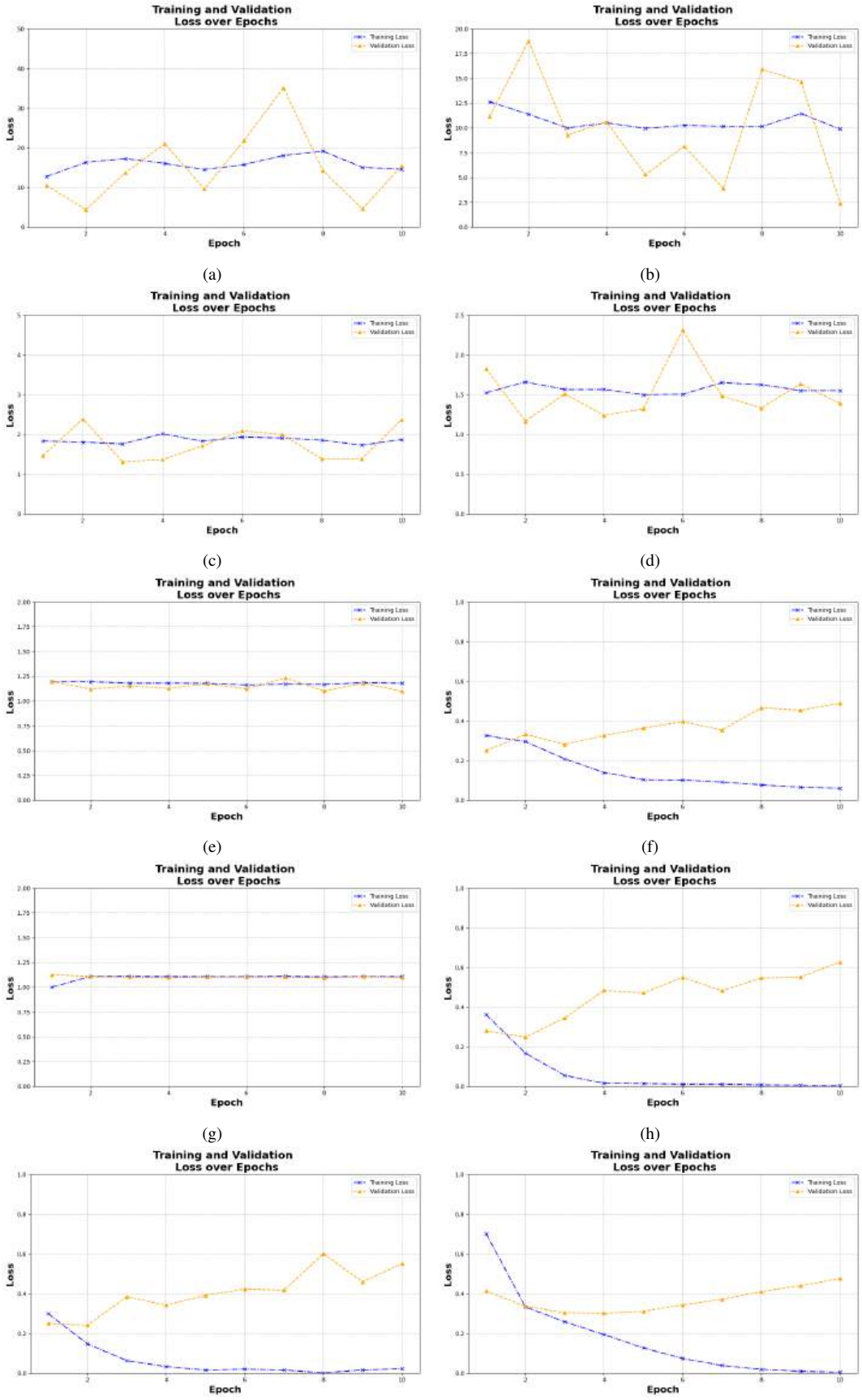
(c) (d)

(e) (f)

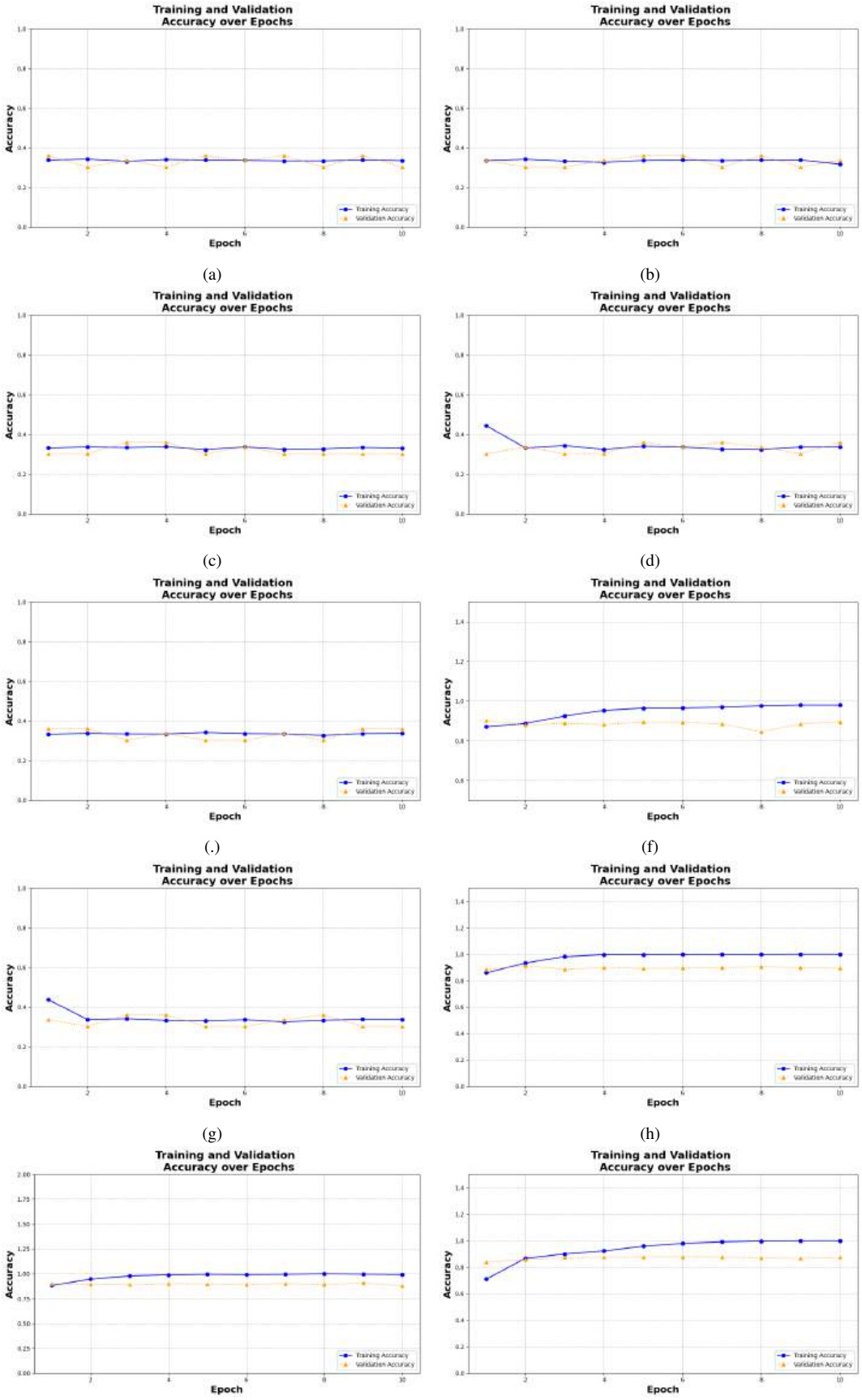
(g) (h)

(i) (j)

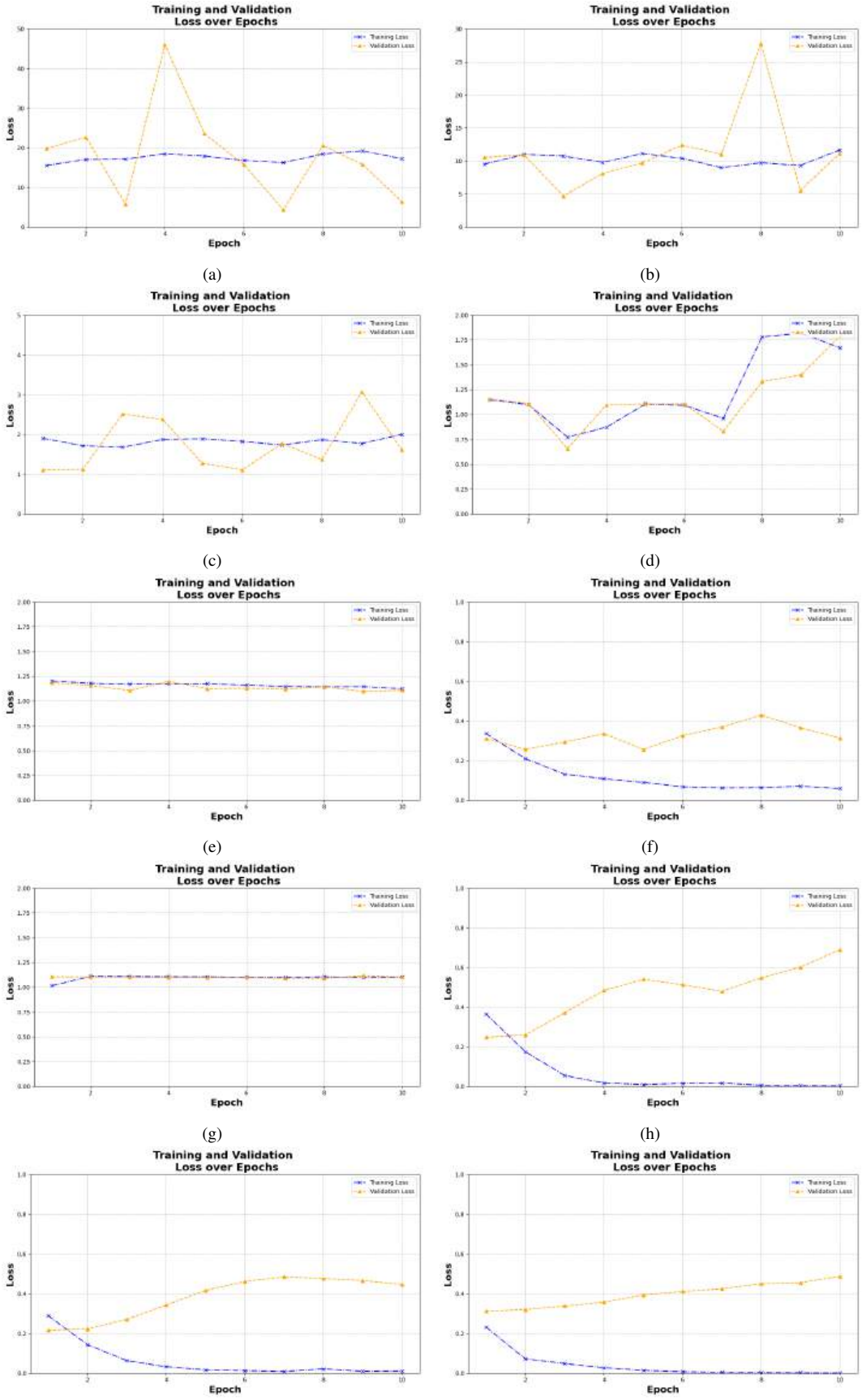
Gambar D.30 *Accuracy* IndoBERT dan Cendol pada *epoch* 5 dengan *batch size* 8: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *accuracy* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *accuracy* Cendol.



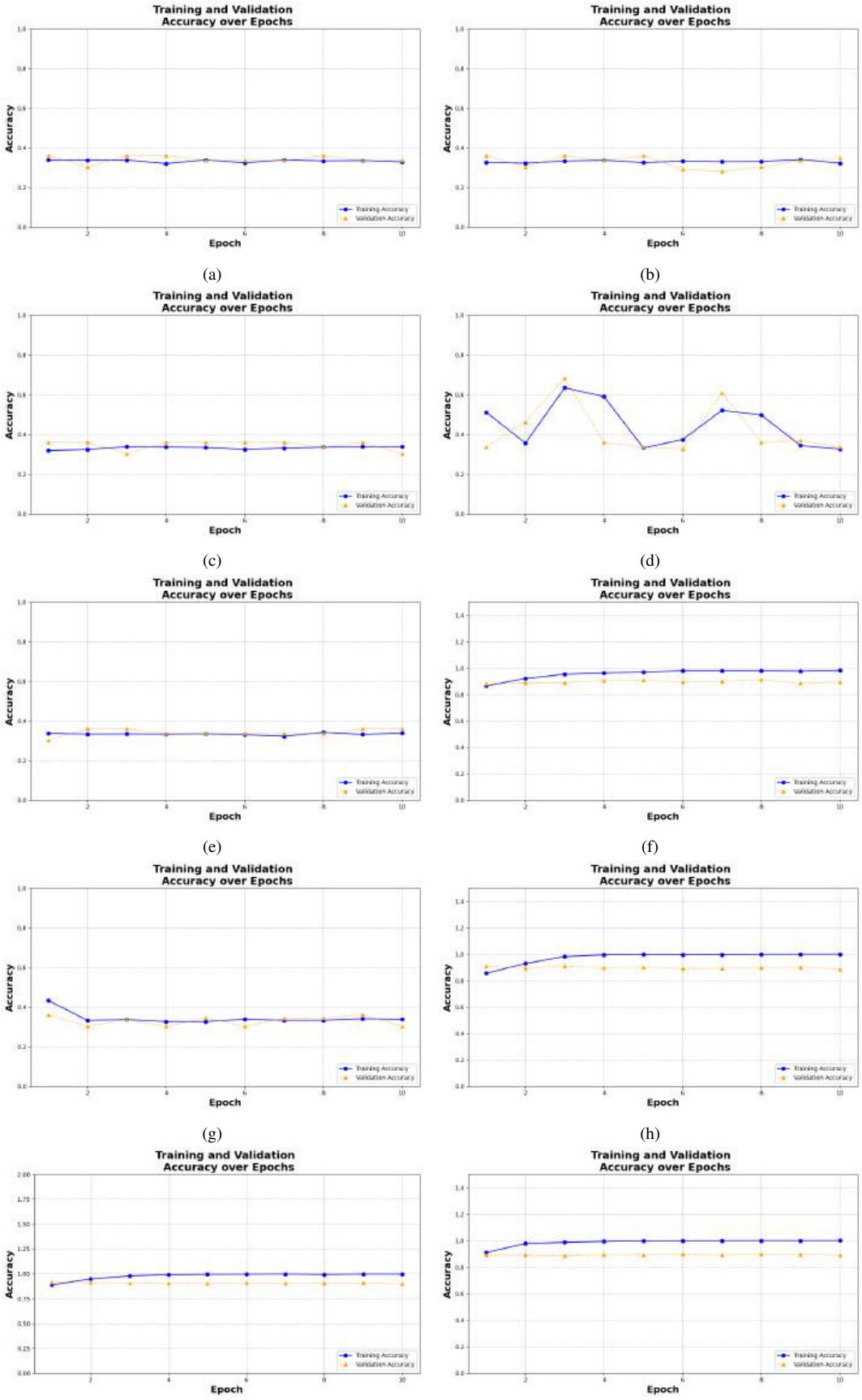
Gambar D.31 *Loss* IndoBERT dan Cendol pada *epoch* 10 dengan *batch size* 2: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *loss* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *loss* Cendol.



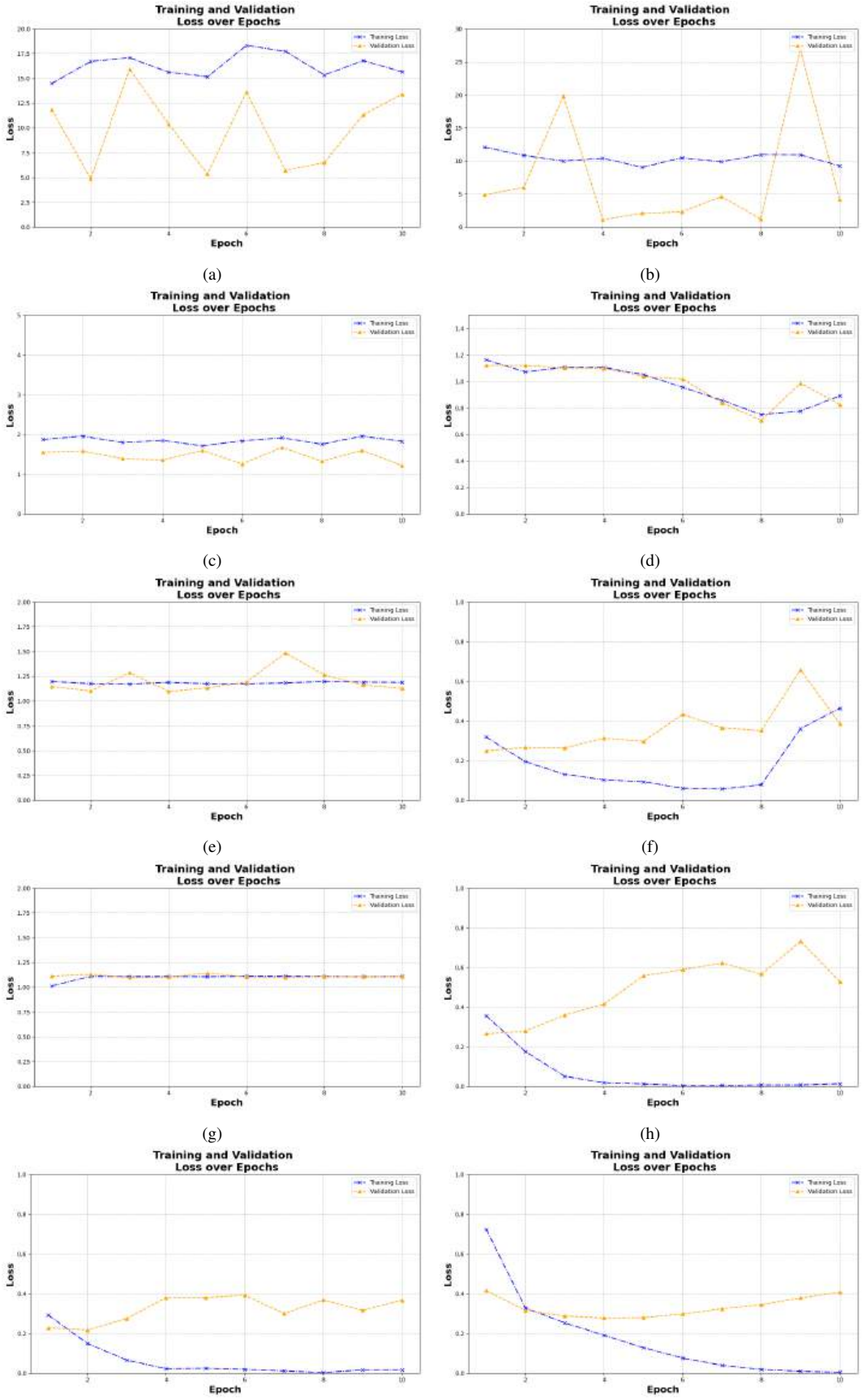
Gambar D.32 *Accuracy* IndoBERT dan Cendol pada *epoch* 10 dengan *batch size* 2: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *accuracy* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *accuracy* Cendol.



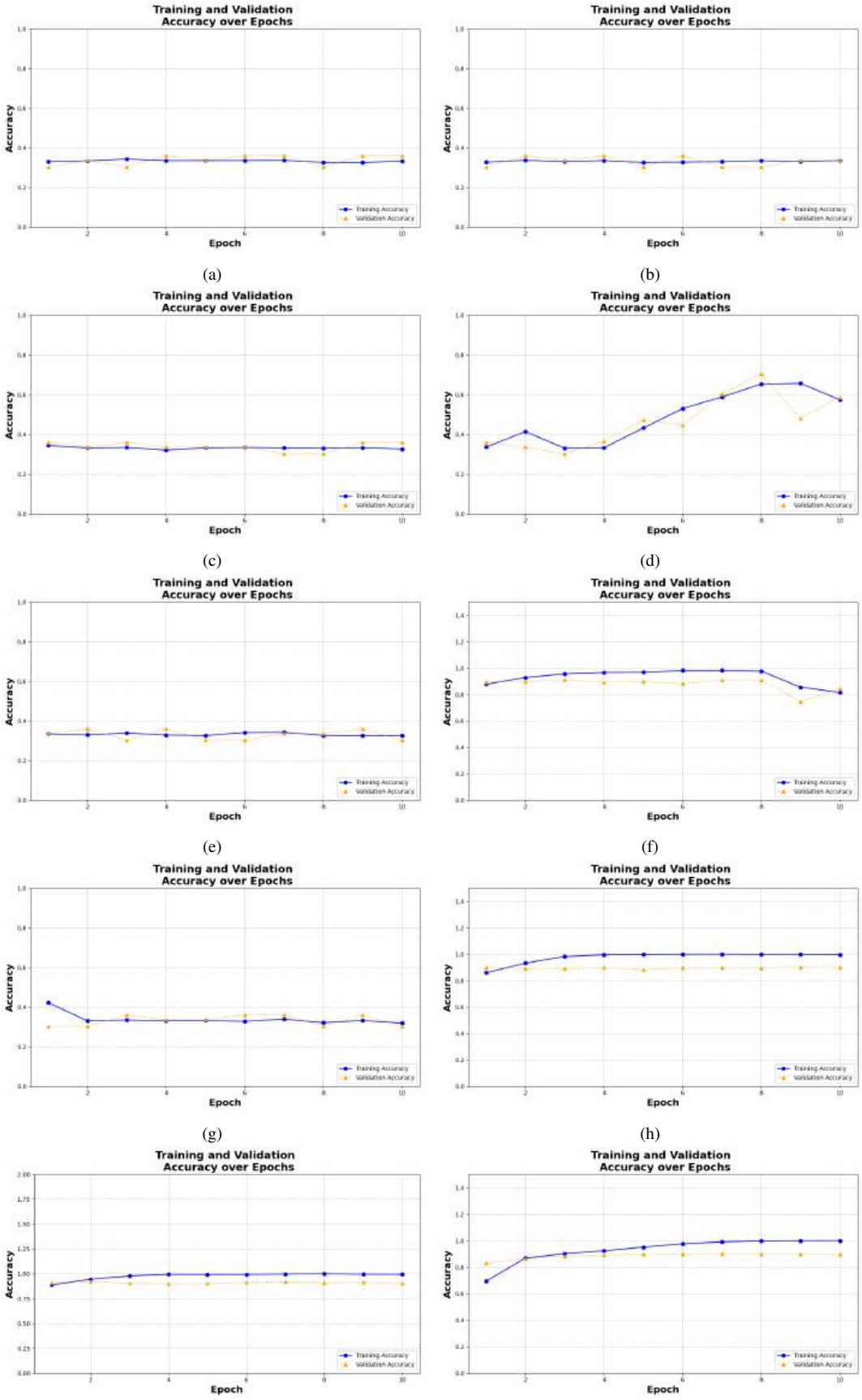
Gambar D.33 *Loss* IndoBERT dan Cendol pada *epoch* 10 dengan *batch size* 4: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *loss* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *loss* Cendol.



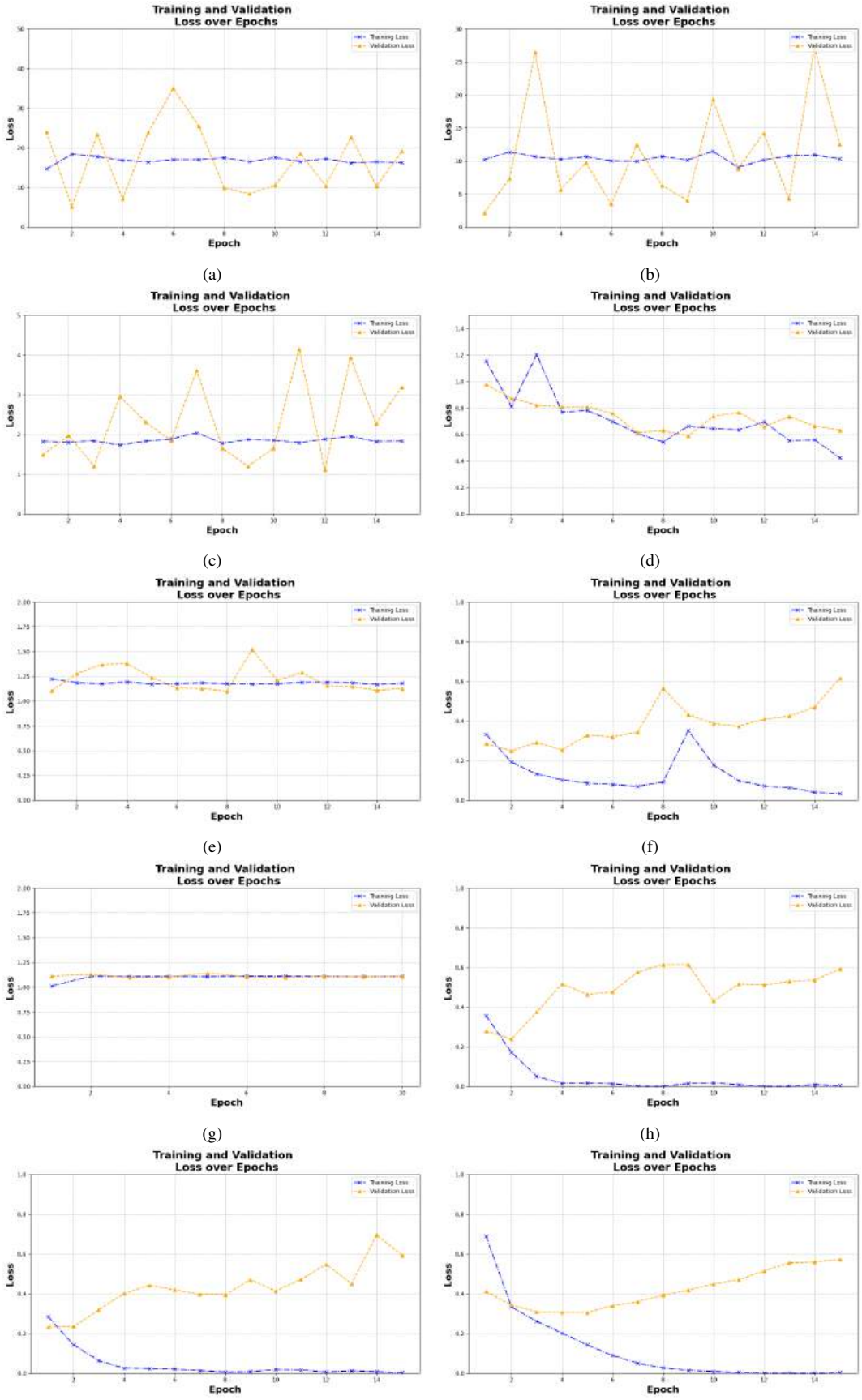
Gambar D.34 *Accuracy* IndoBERT dan Cendol pada *epoch* 10 dengan *batch size* 4: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *accuracy* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *accuracy* Cendol.



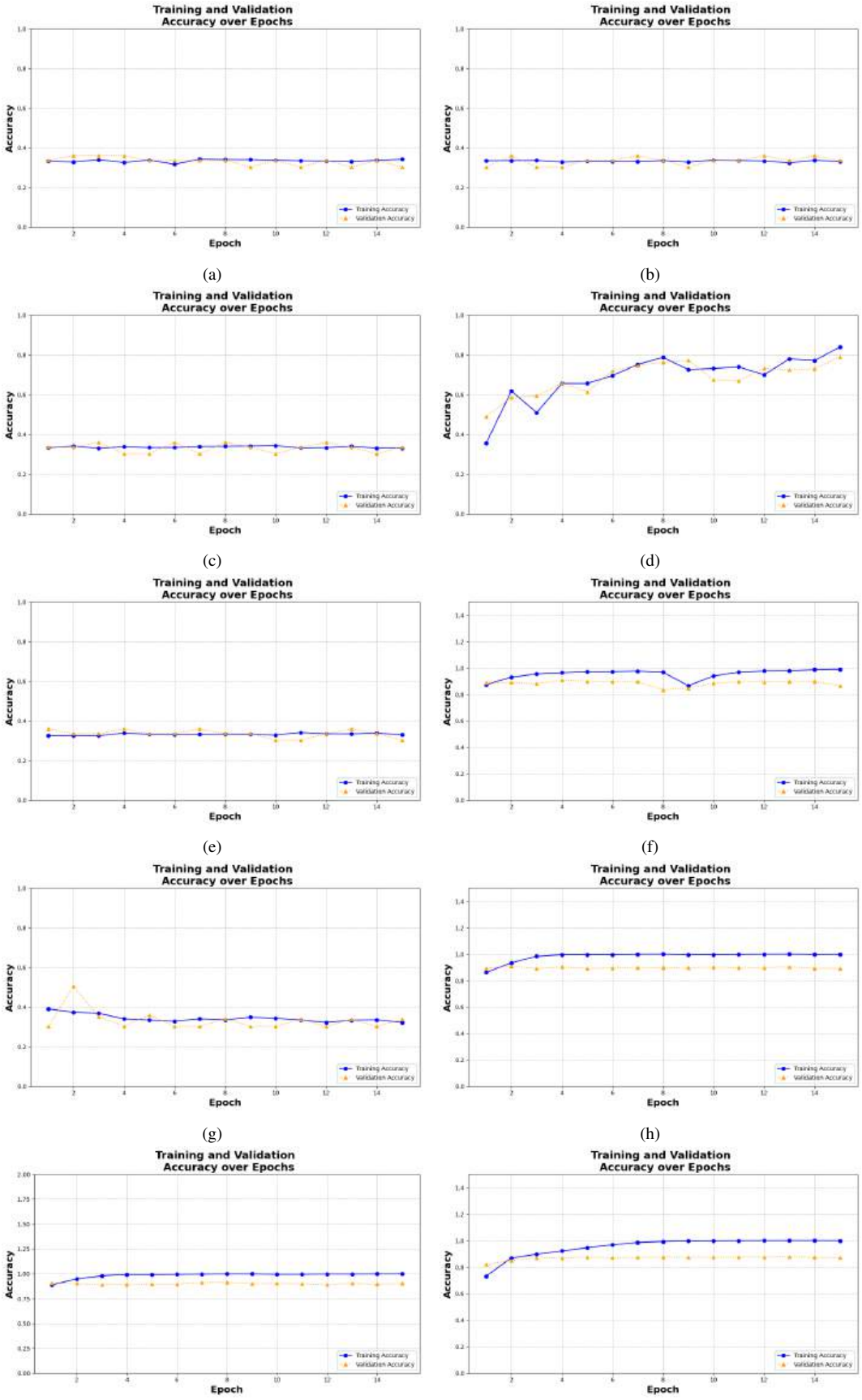
Gambar D.35 *Loss* IndoBERT dan Cendol pada *epoch* 10 dengan *batch size* 8: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *loss* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *loss* Cendol.



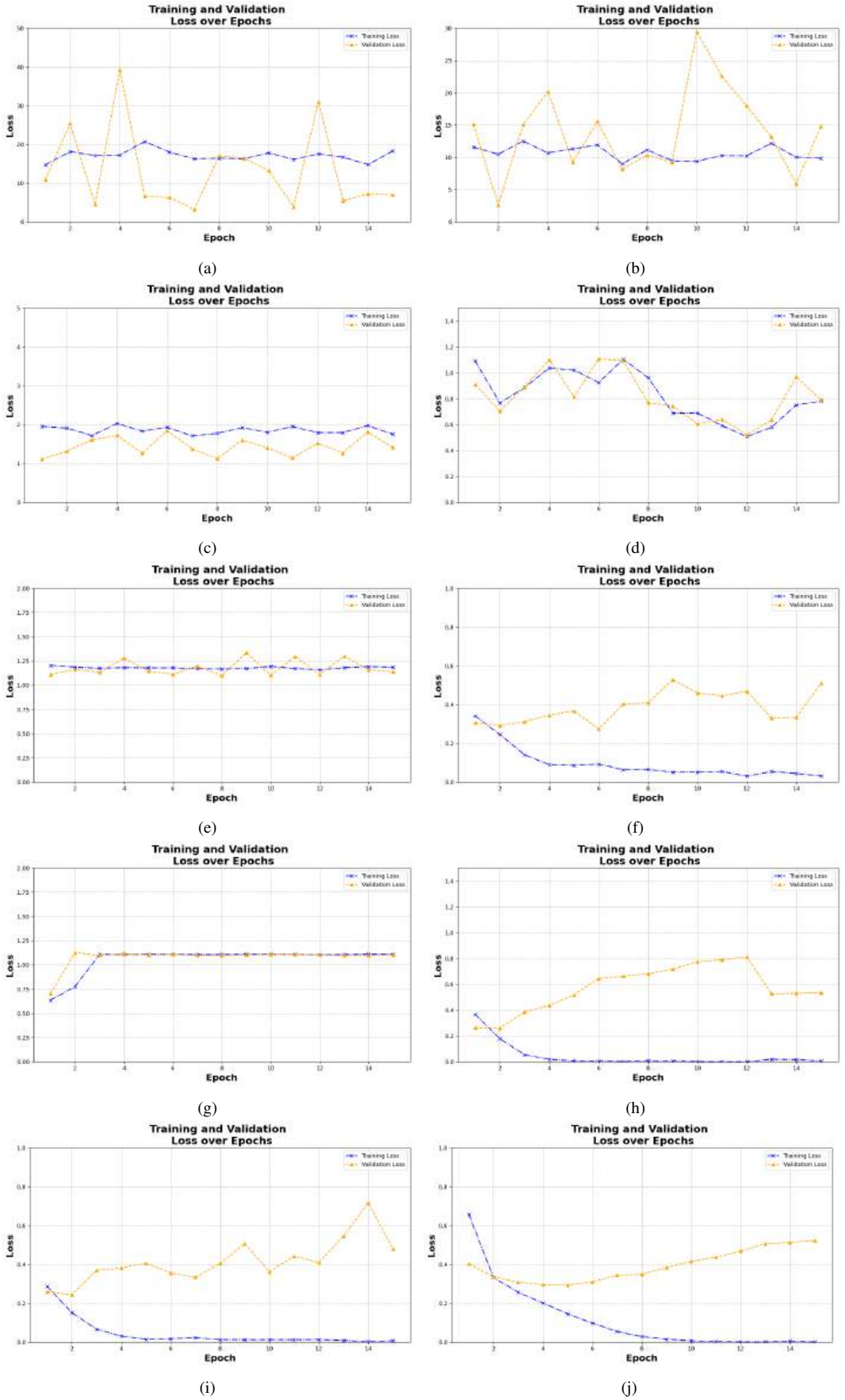
Gambar D.36 *Accuracy* IndoBERT dan Cendol pada *epoch* 10 dengan *batch size* 8: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *accuracy* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *accuracy* Cendol.



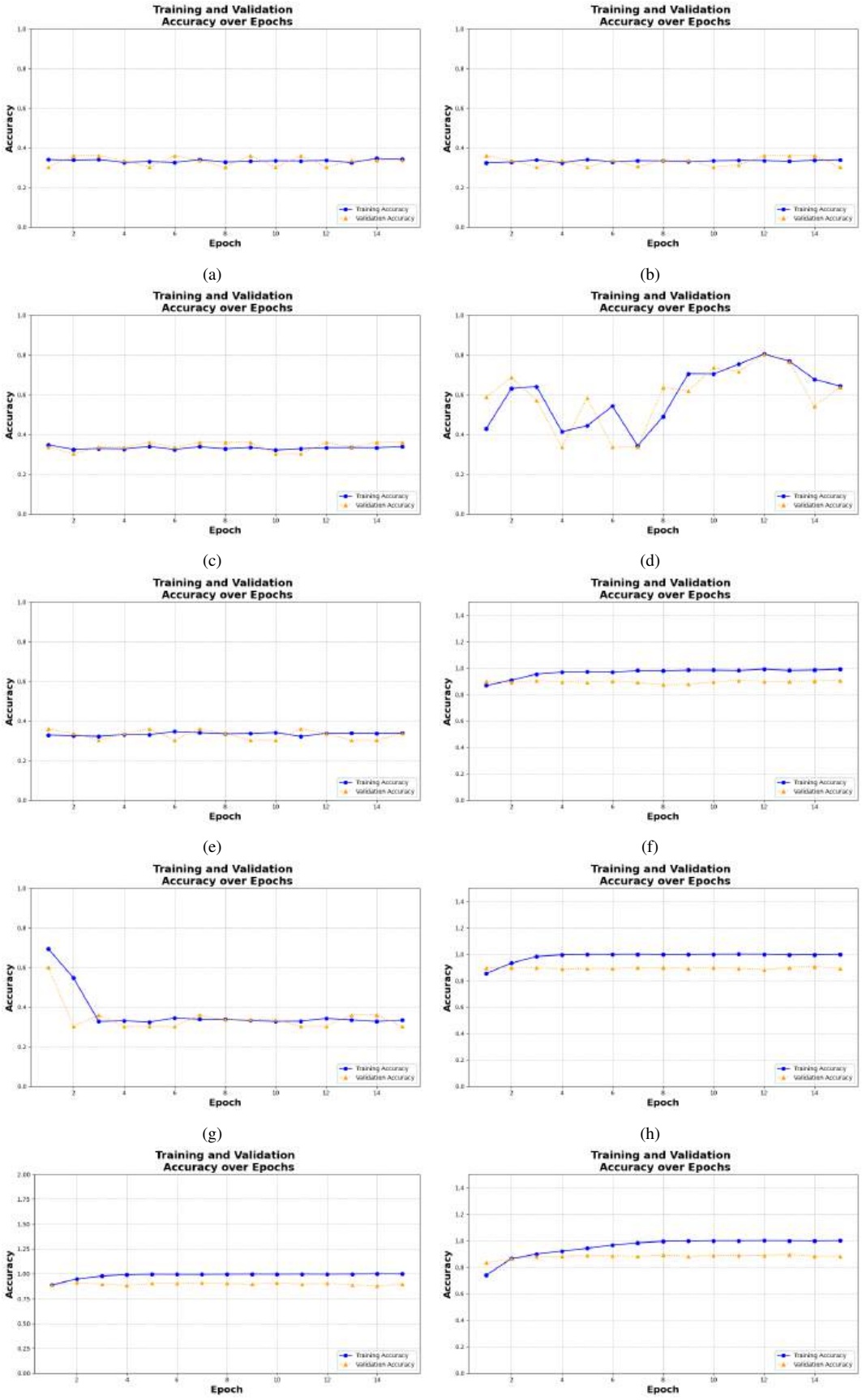
Gambar D.37 *Loss* IndoBERT dan Cendol pada *epoch* 15 dengan *batch size* 2: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *loss* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *loss* Cendol.



Gambar D.38 *Accuracy* IndoBERT dan Cendol pada *epoch* 15 dengan *batch size* 2: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *accuracy* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *accuracy* Cendol.



Gambar D.39 *Loss* IndoBERT dan Cendol pada *epoch* 15 dengan *batch size* 4: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *loss* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *loss* Cendol.



(a) (b)

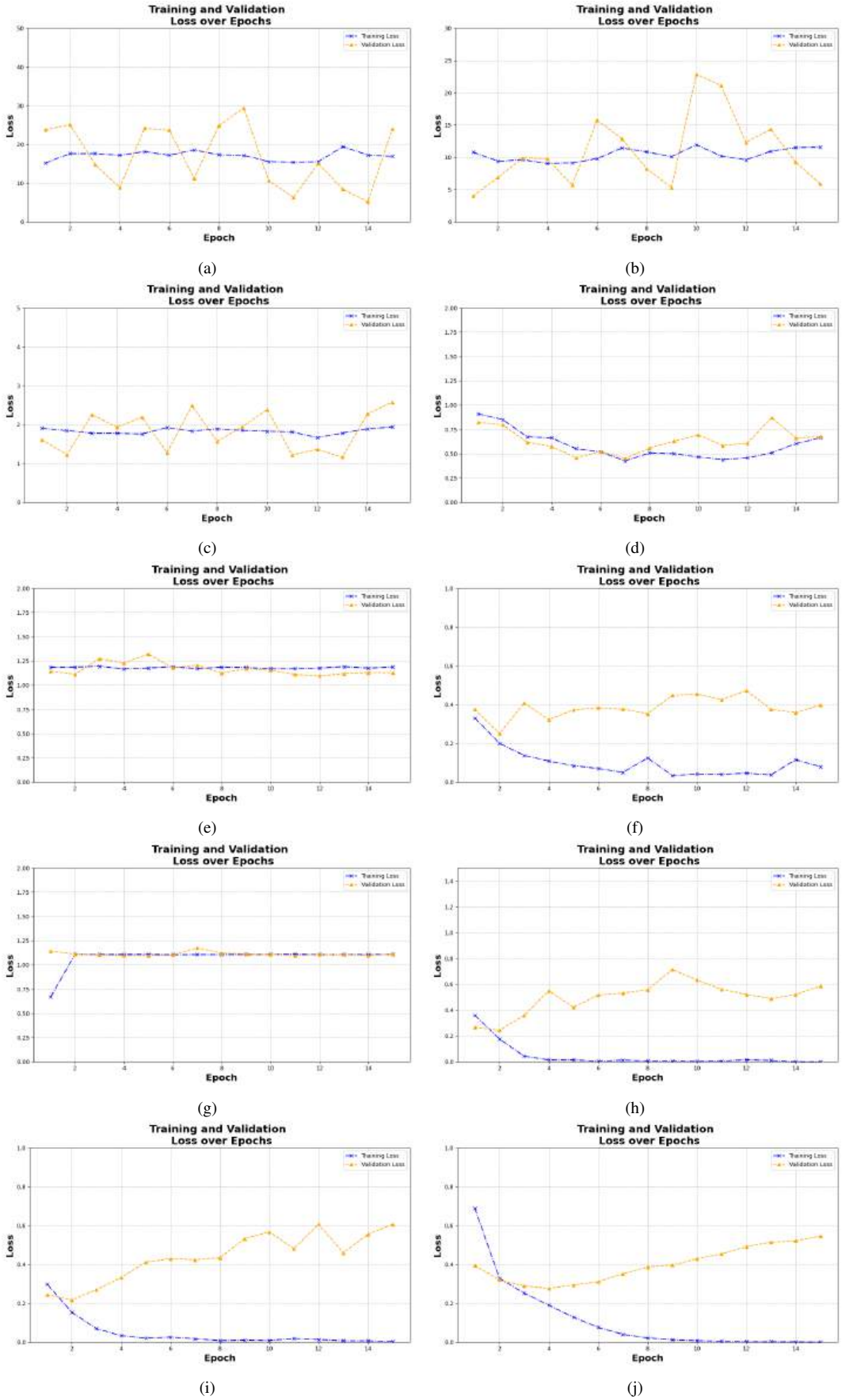
(c) (d)

(e) (f)

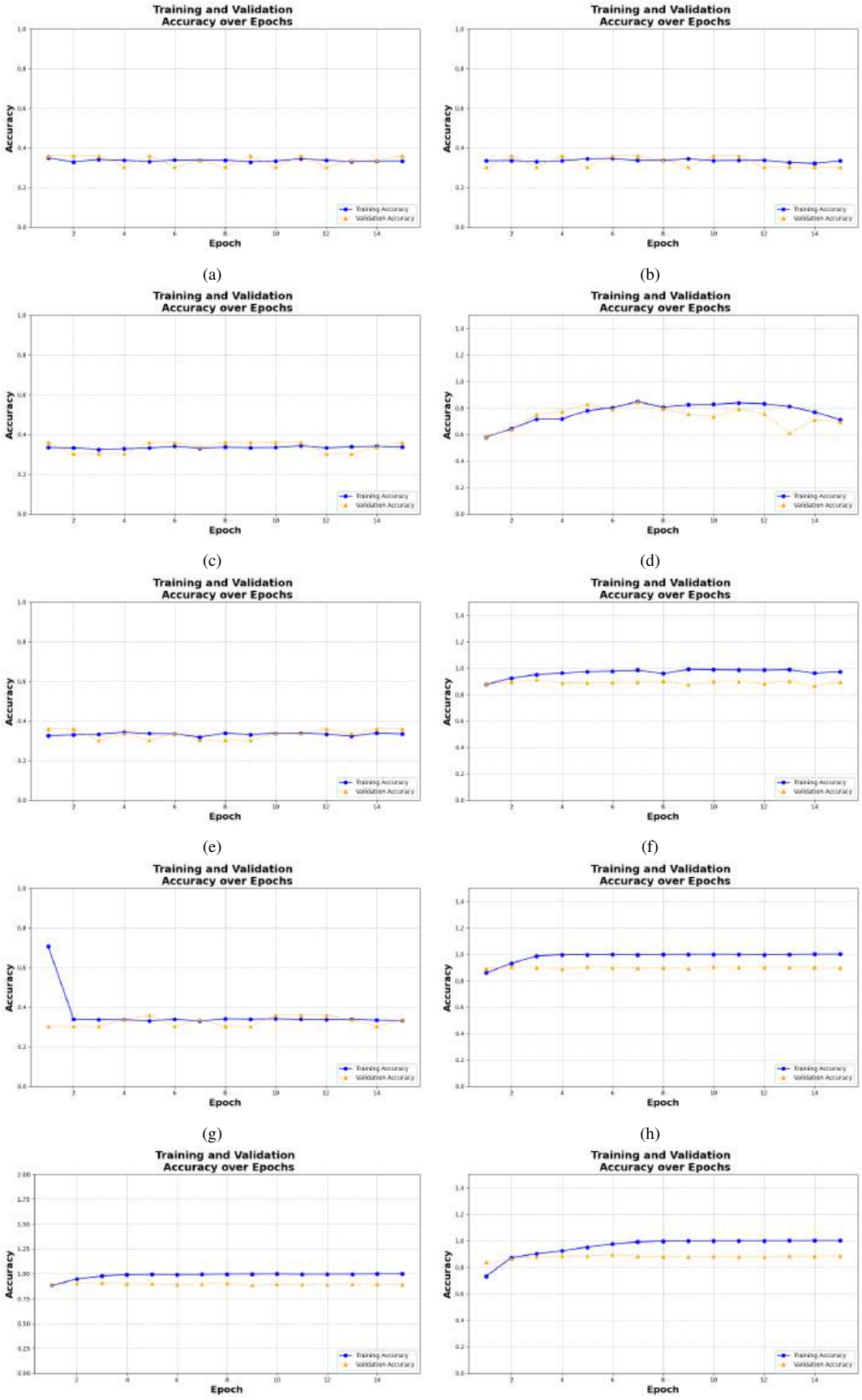
(g) (h)

(i) (j)

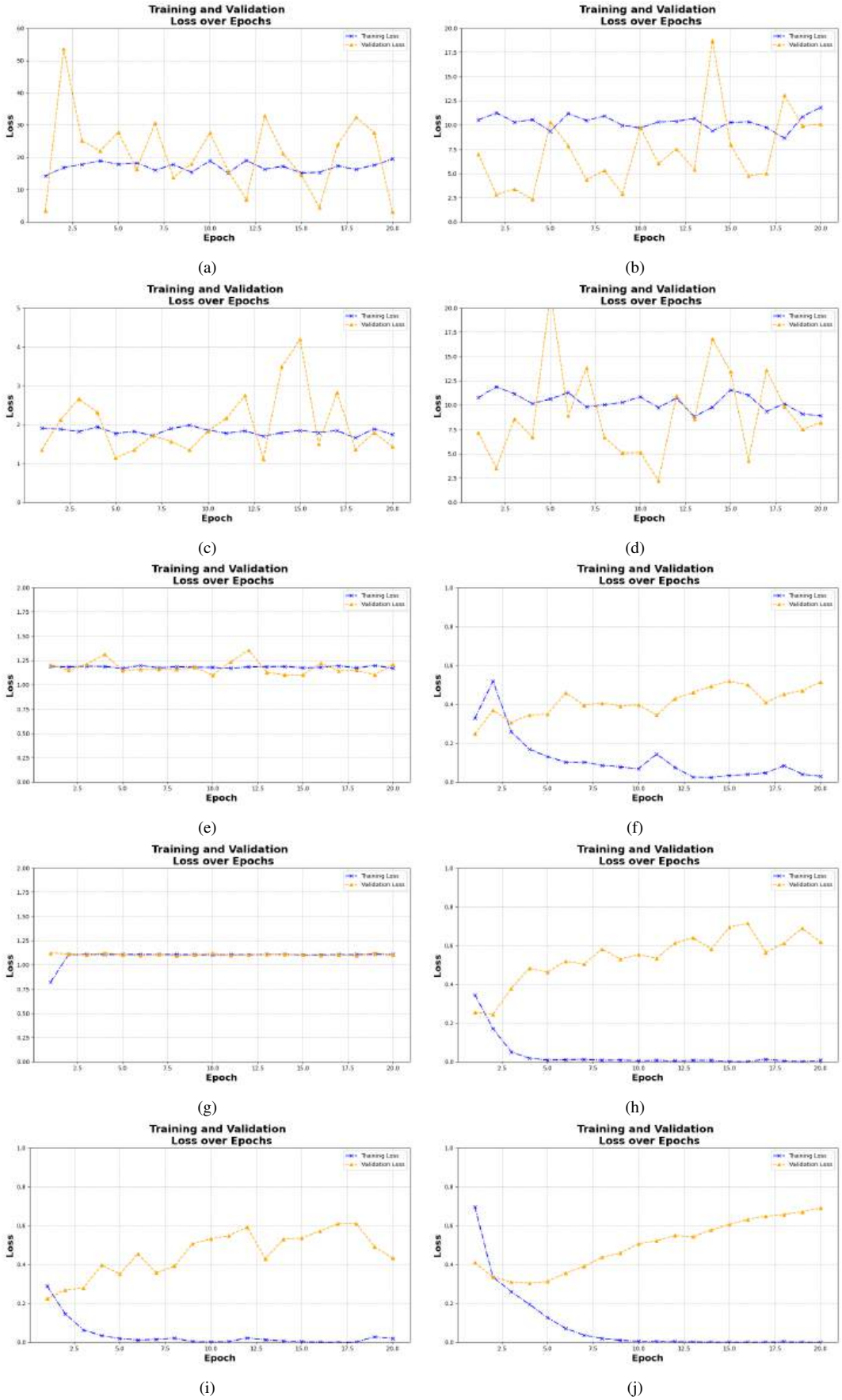
Gambar D.40 *Accuracy* IndoBERT dan Cendol pada *epoch* 15 dengan *batch size* 4: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *accuracy* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *accuracy* Cendol.



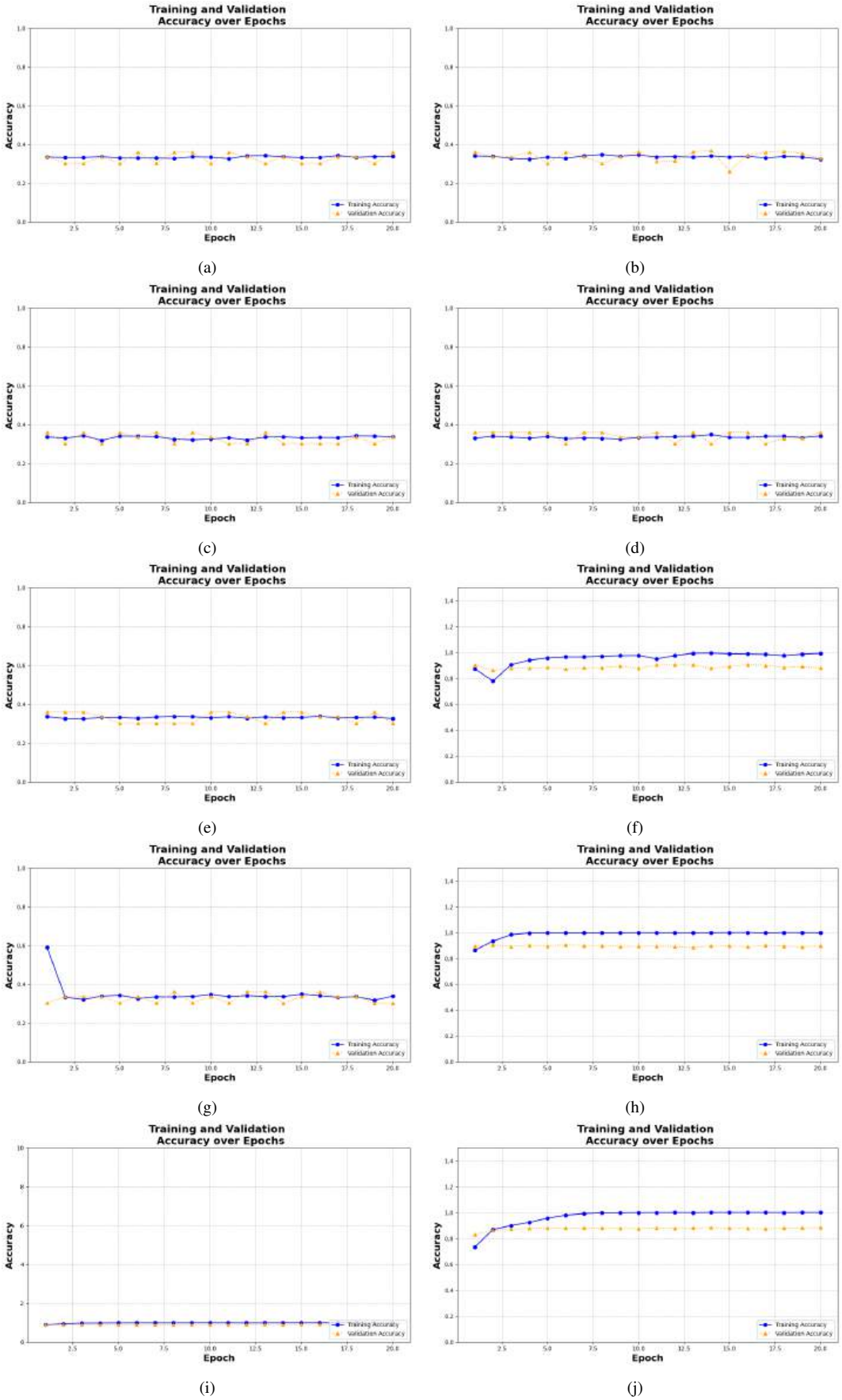
Gambar D.41 *Loss* IndoBERT dan Cendol pada *epoch* 15 dengan *batch size* 8: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *loss* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *loss* Cendol.



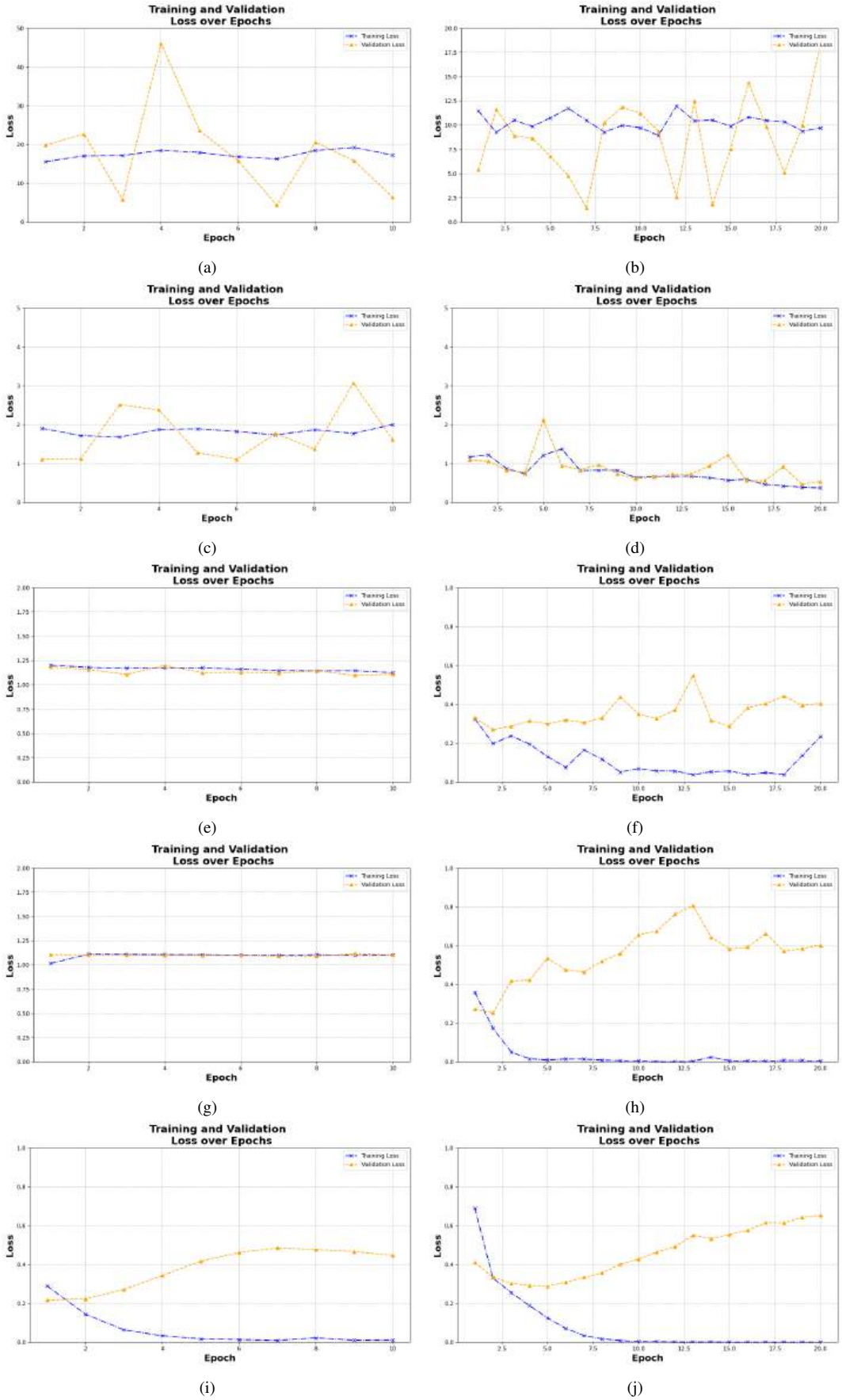
Gambar D.42 *Accuracy* IndoBERT dan Cendol pada *epoch* 15 dengan *batch size* 8: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *accuracy* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *accuracy* Cendol.



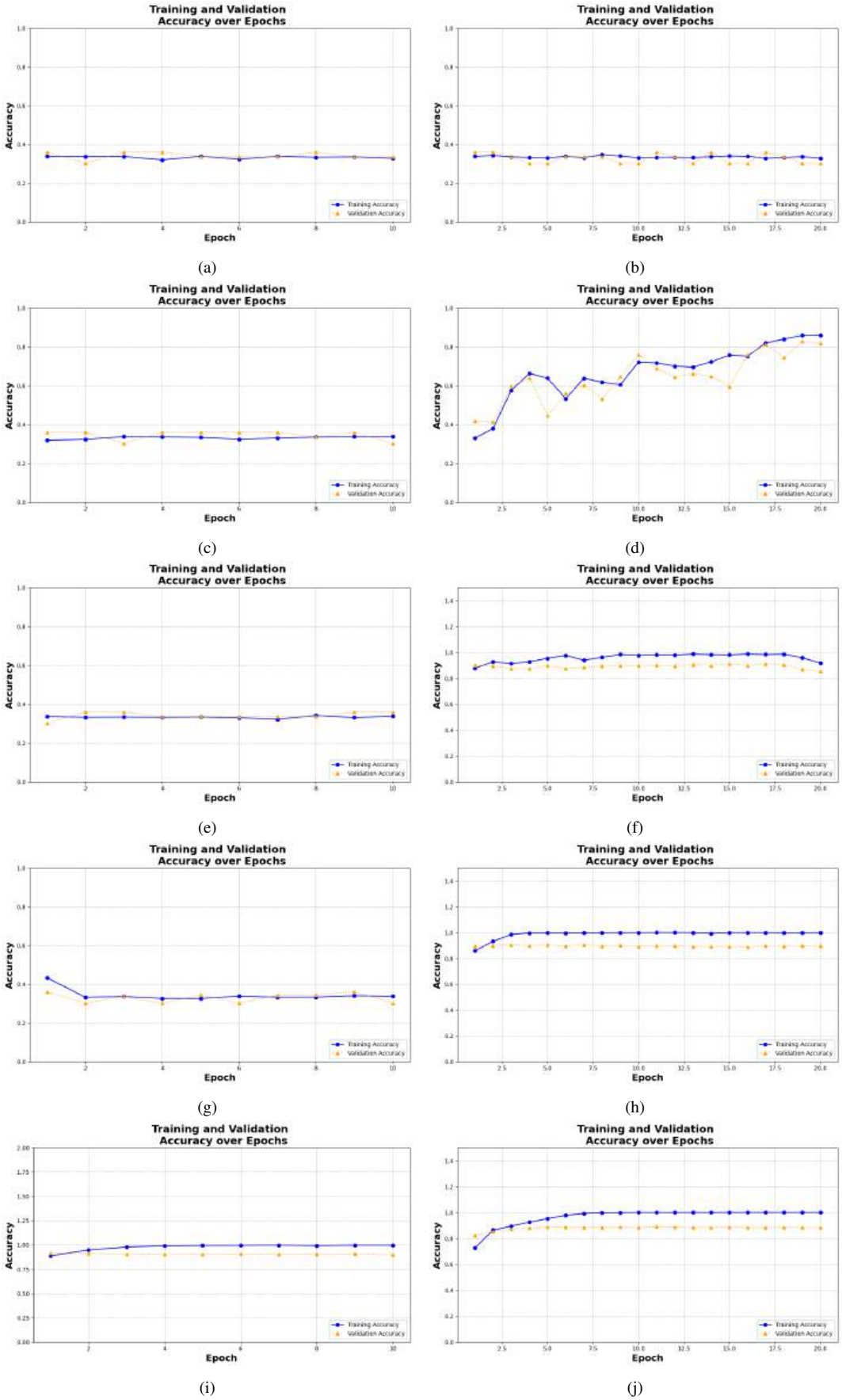
Gambar D.43 *Loss* IndoBERT dan Cendol pada *epoch* 20 dengan *batch size* 2: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *loss* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *loss* Cendol.



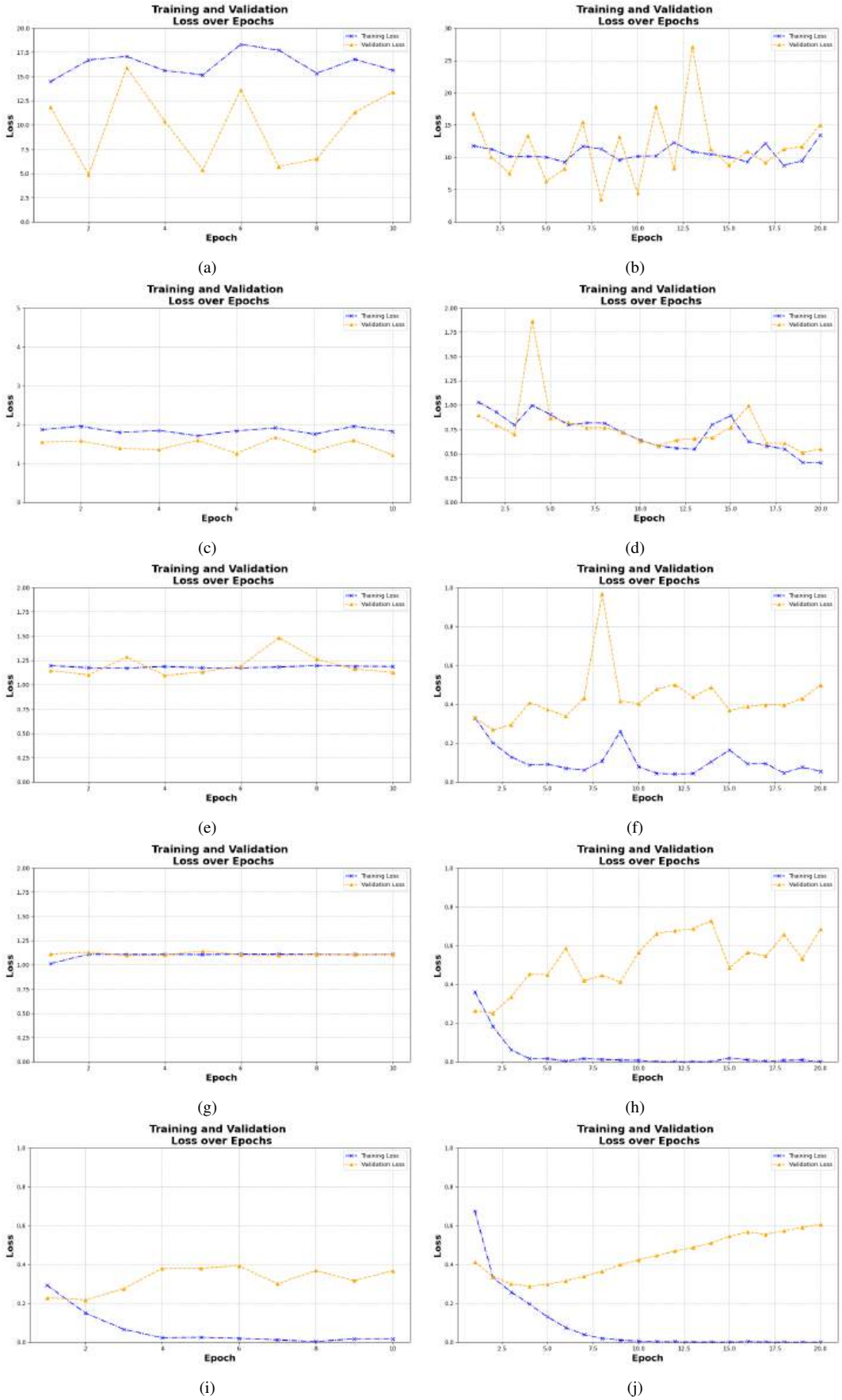
Gambar D.44 *Accuracy* IndoBERT dan Cendol pada *epoch* 20 dengan *batch size* 2: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *accuracy* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *accuracy* Cendol.



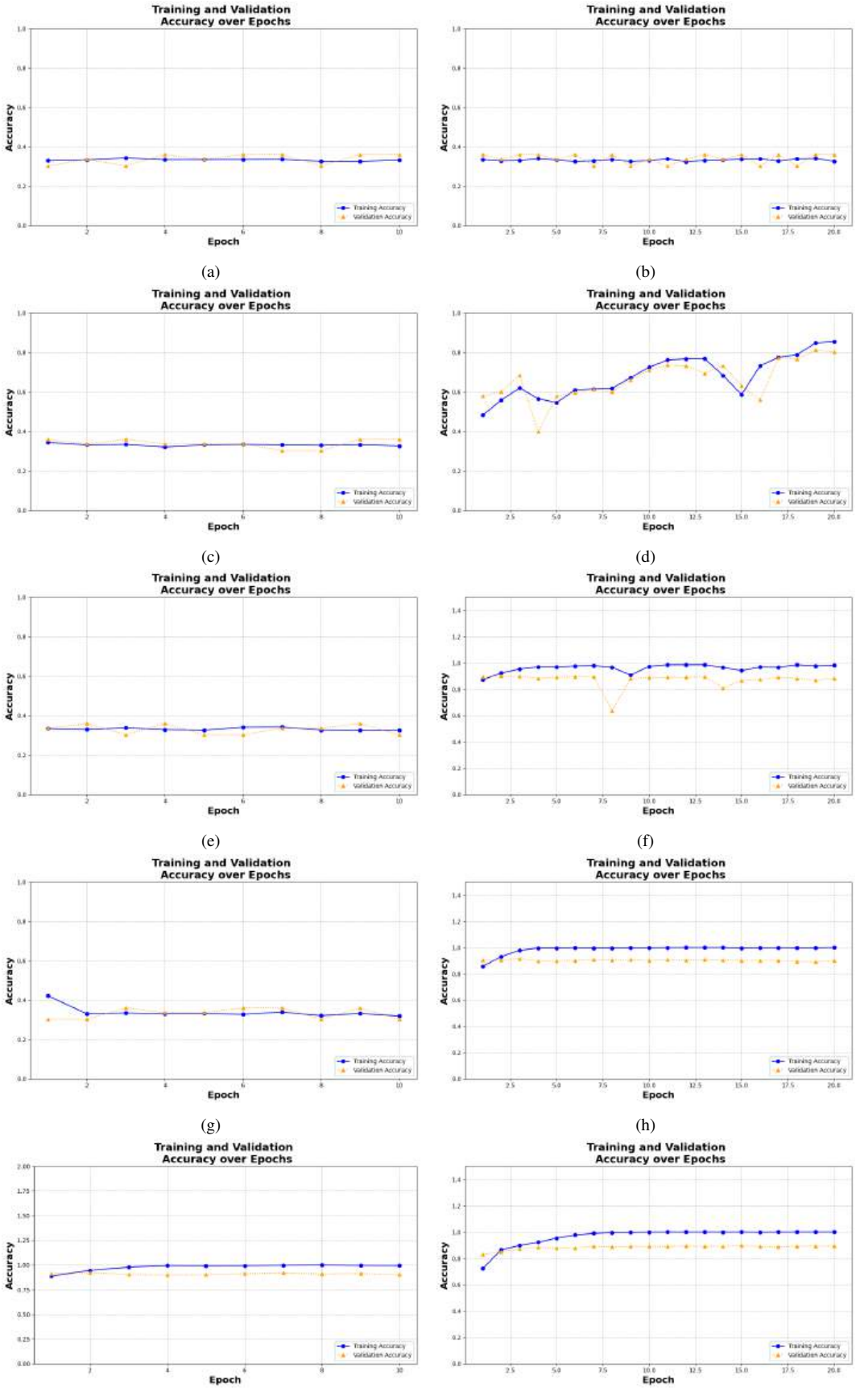
Gambar D.45 *Loss* IndoBERT dan Cendol pada *epoch* 20 dengan *batch size* 4: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *loss* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *loss* Cendol.



Gambar D.46 *Accuracy* IndoBERT dan Cendol pada *epoch* 20 dengan *batch size* 4: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *accuracy* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *accuracy* Cendol.



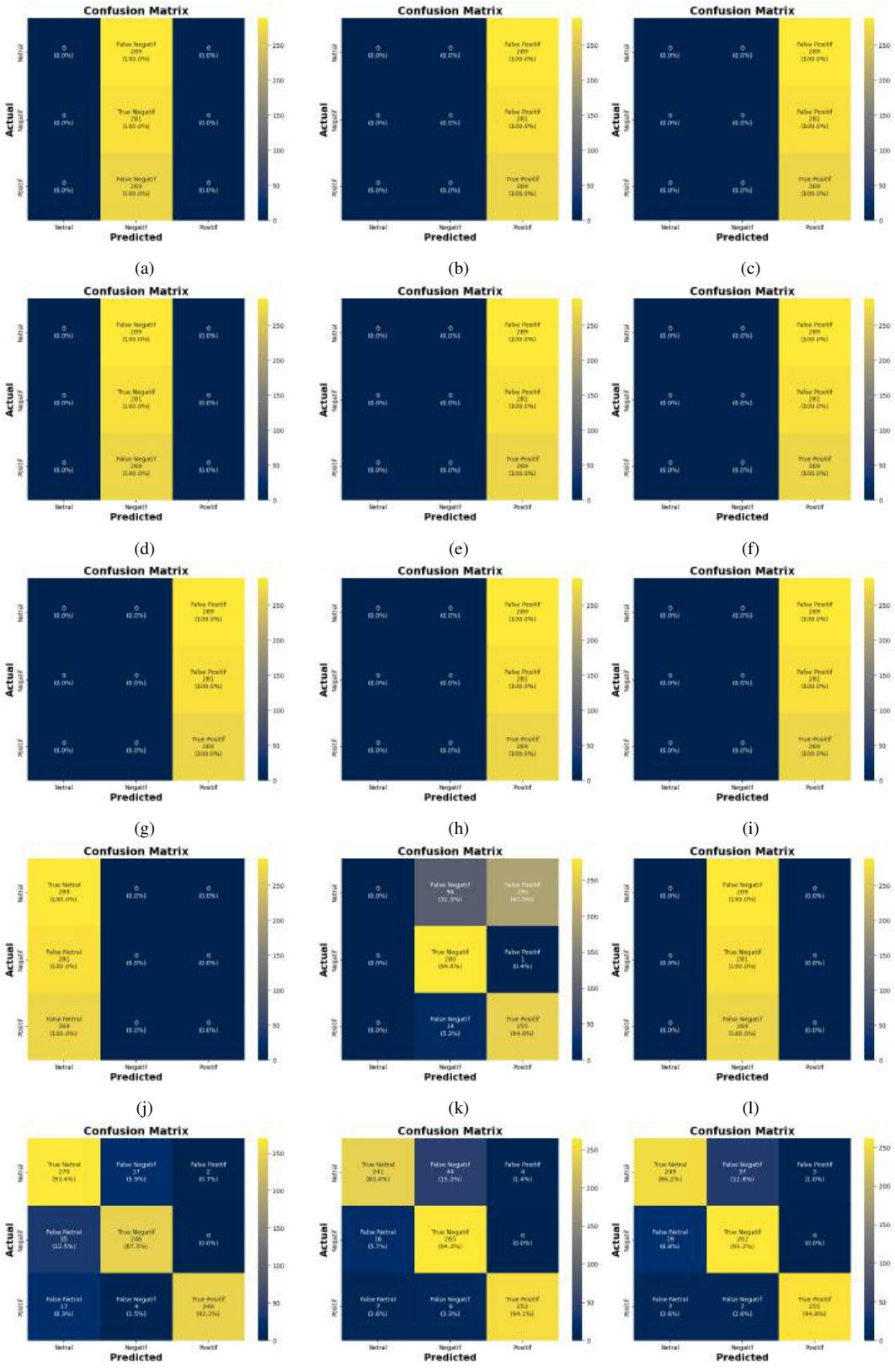
Gambar D.47 *Loss* IndoBERT dan Cendol pada *epoch* 20 dengan *batch size* 8: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *loss* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *loss* Cendol.



Gambar D.48 *Accuracy* IndoBERT dan Cendol pada *epoch* 20 dengan *batch size* 8: (a, b) *learning rate* 10e-1; (c, d) 10e-2; (e, f) 10e-3; (g, h) 10e-4; (i, j) 10e-5. Gambar (a, c, e, g, i) menunjukkan *accuracy* IndoBERT, sedangkan (b, d, f, h, j) menunjukkan *accuracy* Cendol.

LAMPIRAN IV C

Confusion Matrix



(a) (b) (c)

(d) (e) (f)

(g) (h) (i)

(j) (k) (l)

(m) (n) (o)

Gambar D.49 *Confusion matrix* IndoBert pada *epoch* 5: (a,b,c) *learning rat*e 10e-1; (d,e,f) *learning rate* 10e-2; (g,h,i) *learning rate* 10e-3; (j,k,l) *learning rate* 10e-4; (m,n,o) *learning rate* 10e-5. Gambar (a,d,g,i,m) merupakan *batch size* 2, Gambar (b,e,h,k,n) merupakan *batch size* 4, sedangkan Gambar (c,f,i,l,o) merupakan *batch siz*e 8.

(a) (b) (c)

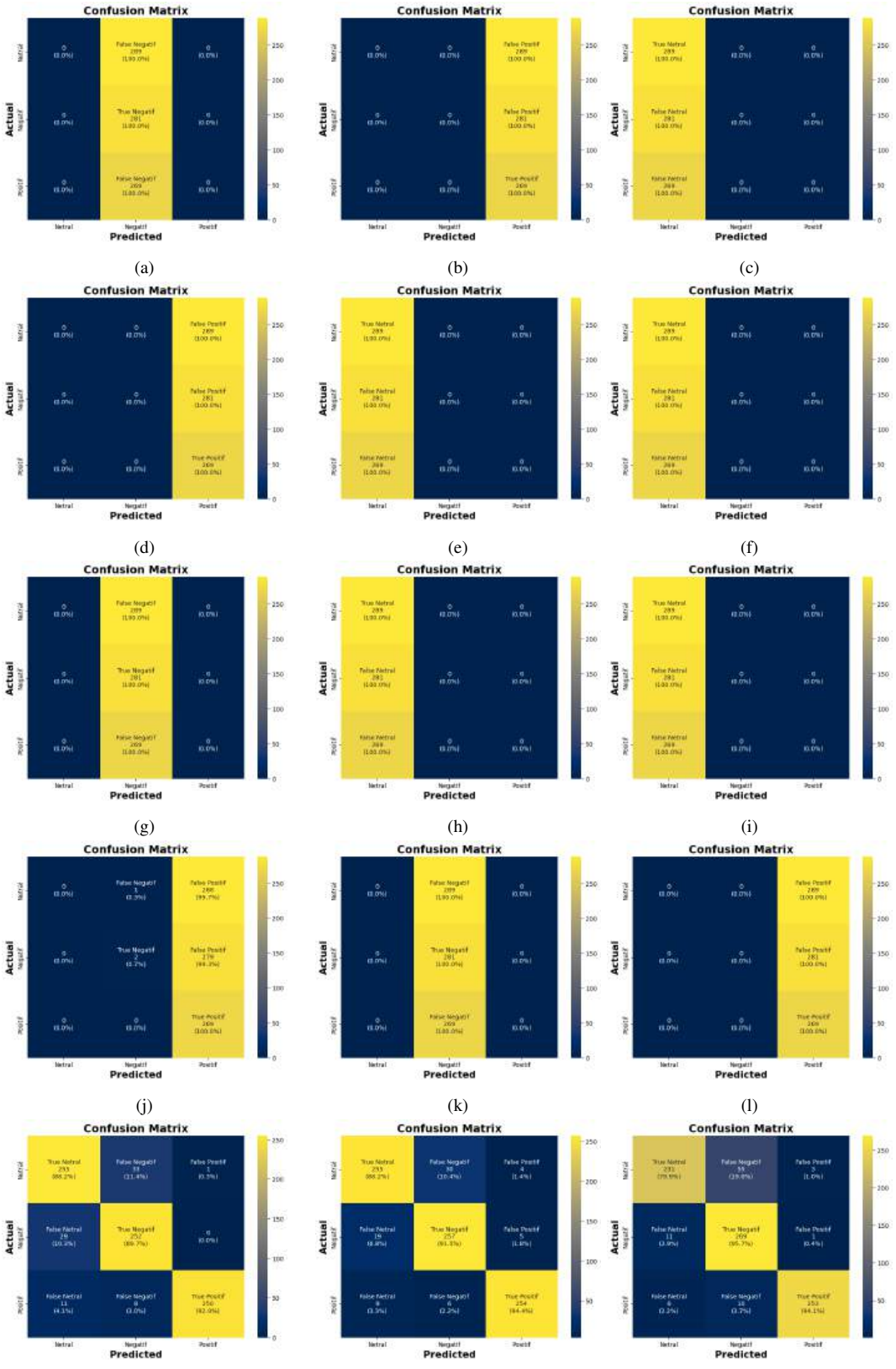
(d) (e) (f)

(g) (h) (i)

(j) (k) (l)

(m) (n) (o)

Gambar D.50 *Confusion matrix* IndoBert pada *epoch* 10: (a,b,c) *learning rat*e 10e-1; (d,e,f) *learning rate* 1e2-2; (g,h,i) *learning rate* 10e-3; (j,k,l) *learning rate* 10e-4; (m,n,o) *learning rate* 10e-5. Gambar (a,d,g,i,m) merupakan *batch size* 2, Gambar (b,e,h,k,n) merupakan *batch size* 4, sedangkan Gambar (c,f,i,l,o) merupakan *batch siz*e 8.



(a) (b) (c)

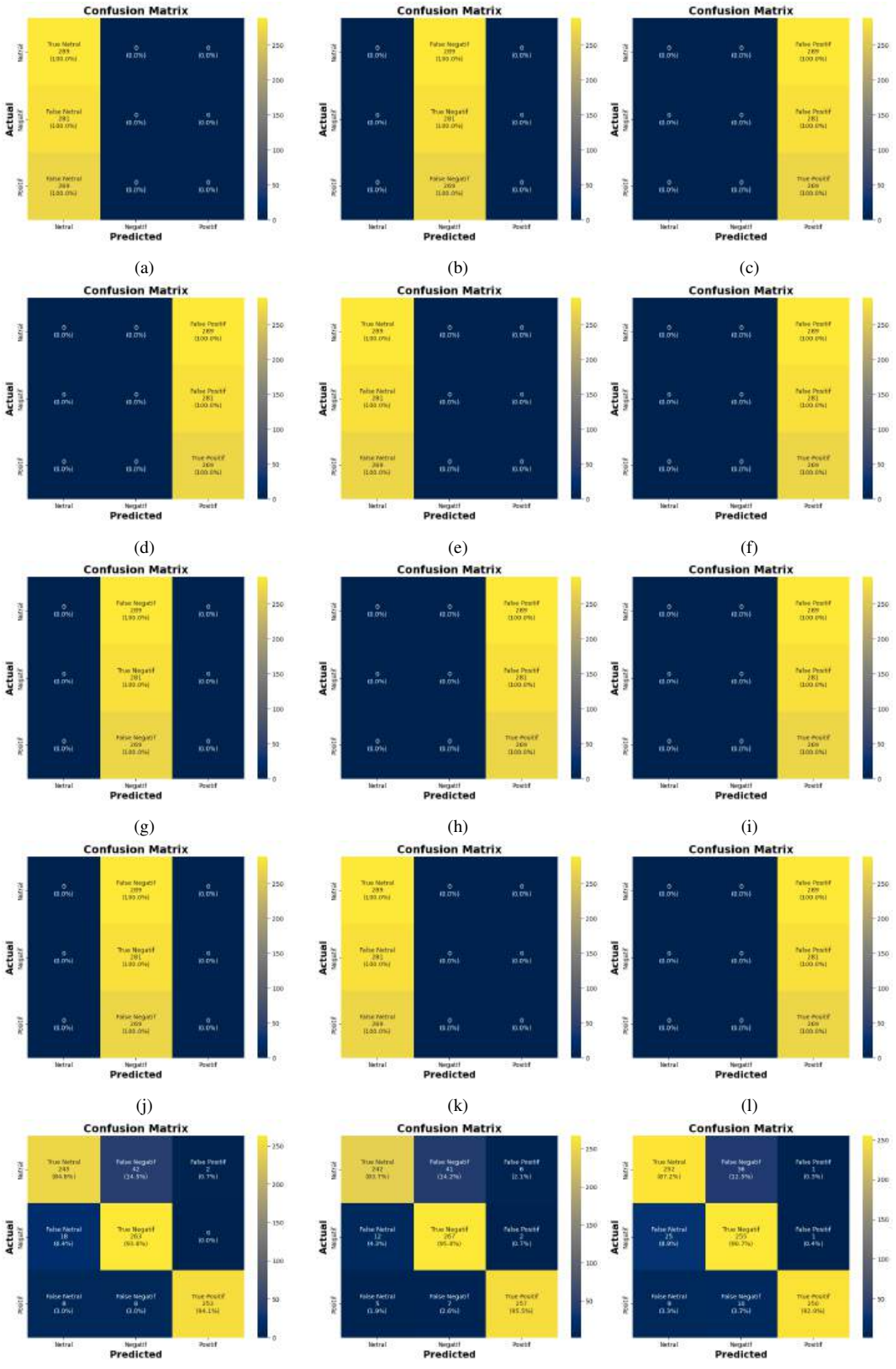
(d) (e) (f)

(g) (h) (i)

(j) (k) (l)

(m) (n) (o)

Gambar D.51 *Confusion matrix* IndoBert pada *epoch* 15: (a,b,c) *learning rat*e 10e-1; (d,e,f) *learning rate* 10e-2; (g,h,i) *learning rate* 10e-3; (j,k,l) *learning rate* 10e-4; (m,n,o) *learning rate* 10e-5. Gambar (a,d,g,i,m) merupakan *batch size* 2, Gambar (b,e,h,k,n) merupakan *batch size* 4, sedangkan Gambar (c,f,i,l,o) merupakan *batch siz*e 8.



(a) (b) (c)

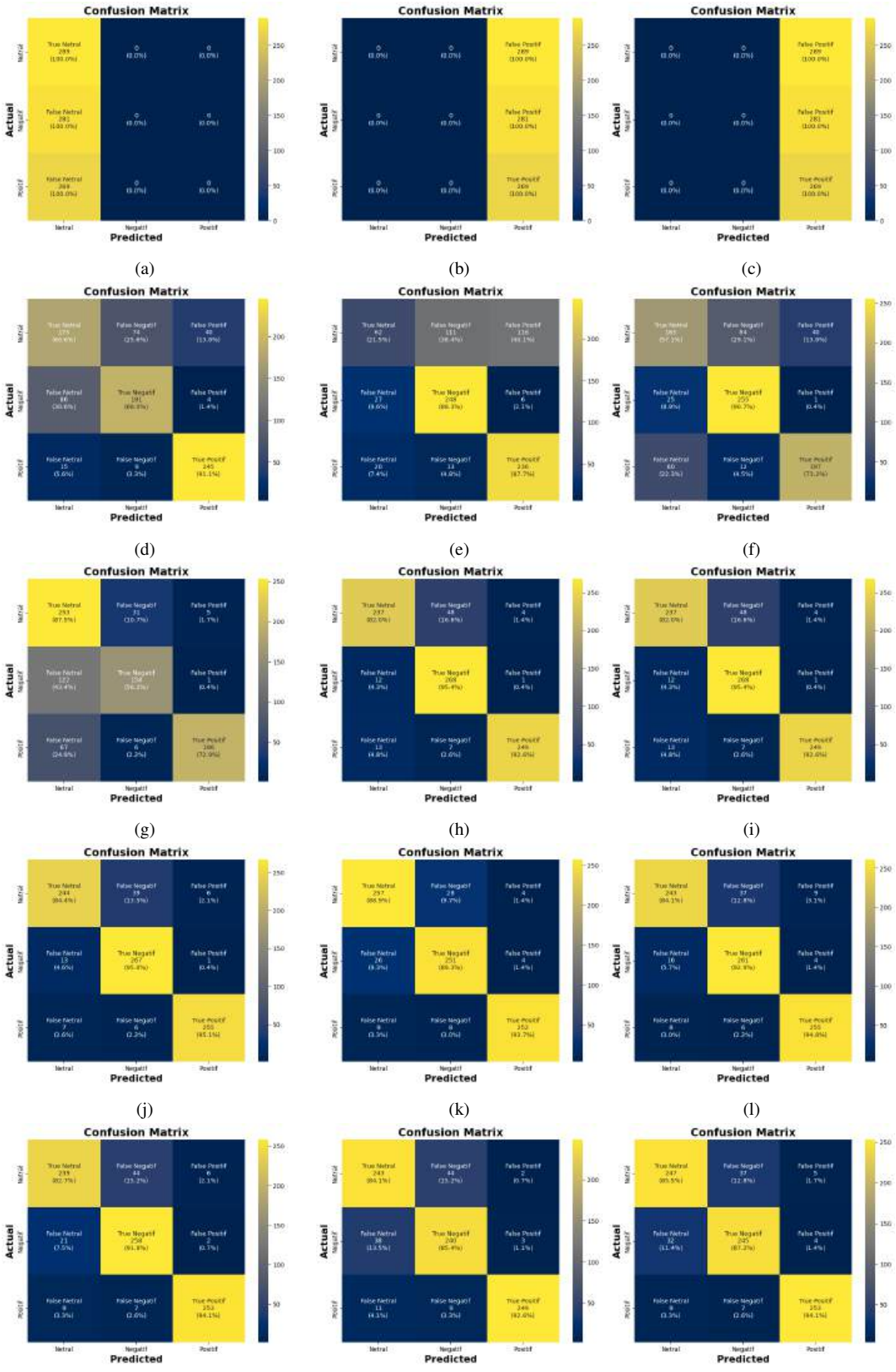
(d) (e) (f)

(g) (h) (i)

(j) (k) (l)

(m) (n) (o)

Gambar D.52 *Confusion matrix* IndoBert pada *epoch* 20: (a,b,c) *learning rat*e 10e-1; (d,e,f) *learning rate* 10e-2; (g,h,i) *learning rate* 10e-3; (j,k,l) *learning rate* 10e-4; (m,n,o) *learning rate* 10e-5. Gambar (a,d,g,i,m) merupakan *batch size* 2, Gambar (b,e,h,k,n) merupakan *batch size* 4, sedangkan Gambar (c,f,i,l,o) merupakan *batch siz*e 8.



(a) (b) (c)

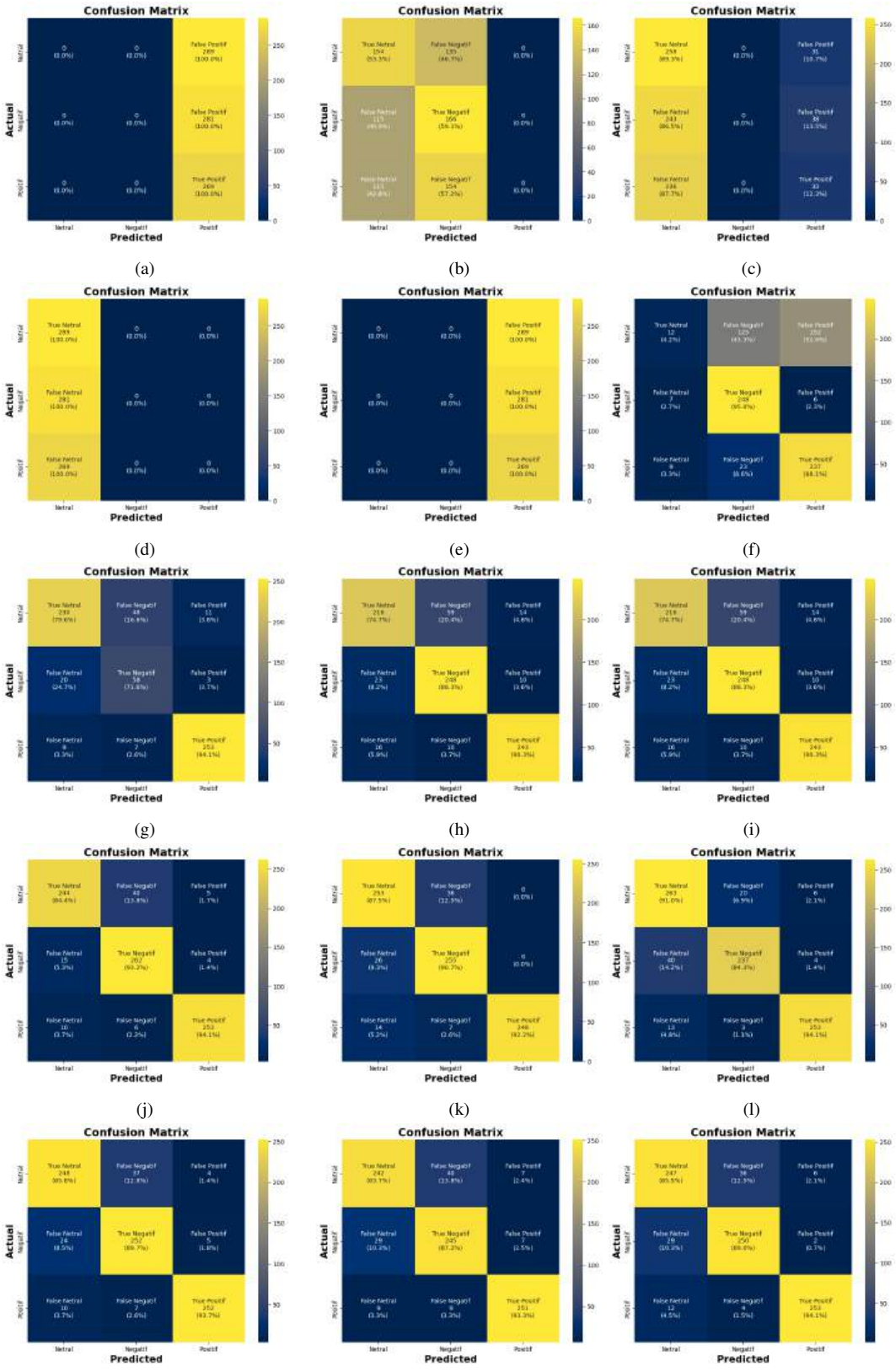
(d) (e) (f)

(g) (h) (i)

(j) (k) (l)

(m) (n) (o)

Gambar D.53 *Confusion matrix* Cendol pada *epoch* 5: (a,b,c) *learning rat*e 10e-1; (d,e,f) *learning rate* 10e-2; (g,h,i) *learning rate* 10e-3; (j,k,l) *learning rate* 10e-4; (m,n,o) *learning rate* 10e-5. Gambar (a,d,g,i,m) merupakan *batch size* 2, Gambar (b,e,h,k,n) merupakan *batch size* 4, sedangkan Gambar (c,f,i,l,o) merupakan *batch siz*e 8.



(a) (b) (c)

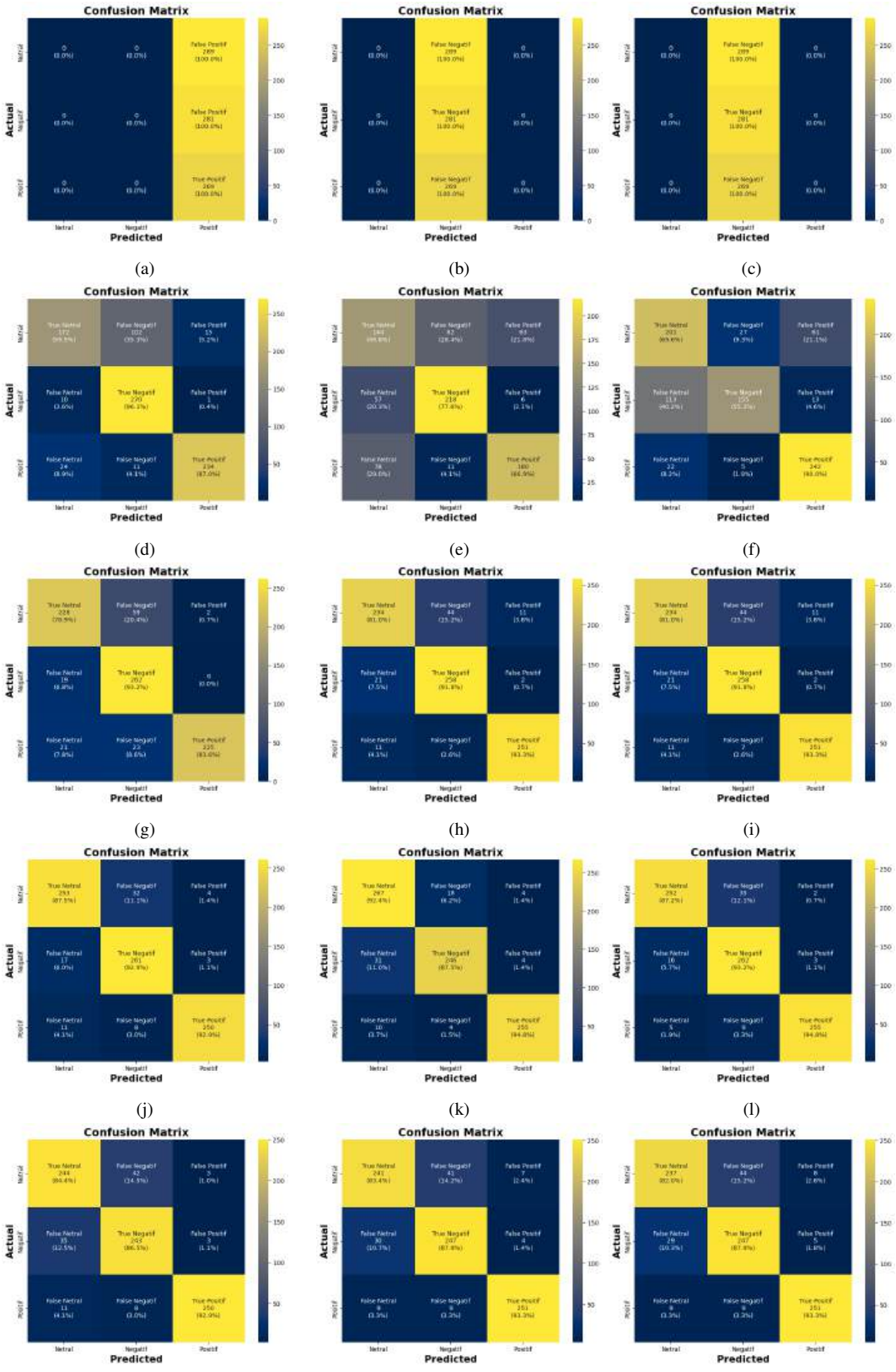
(d) (e) (f)

(g) (h) (i)

(j) (k) (l)

(m) (n) (o)

Gambar D.54 *Confusion matrix* Cendol pada *epoch* 10: (a,b,c) *learning rat*e 10e-1; (d,e,f) *learning rate* 10e-2; (g,h,i) *learning rate* 10e-3; (j,k,l) *learning rate* 10e-4; (m,n,o) *learning rate* 10e-5. Gambar (a,d,g,i,m) merupakan *batch size* 2, Gambar (b,e,h,k,n) merupakan *batch size* 4, sedangkan Gambar (c,f,i,l,o) merupakan *batch siz*e 8.



(a) (b) (c)

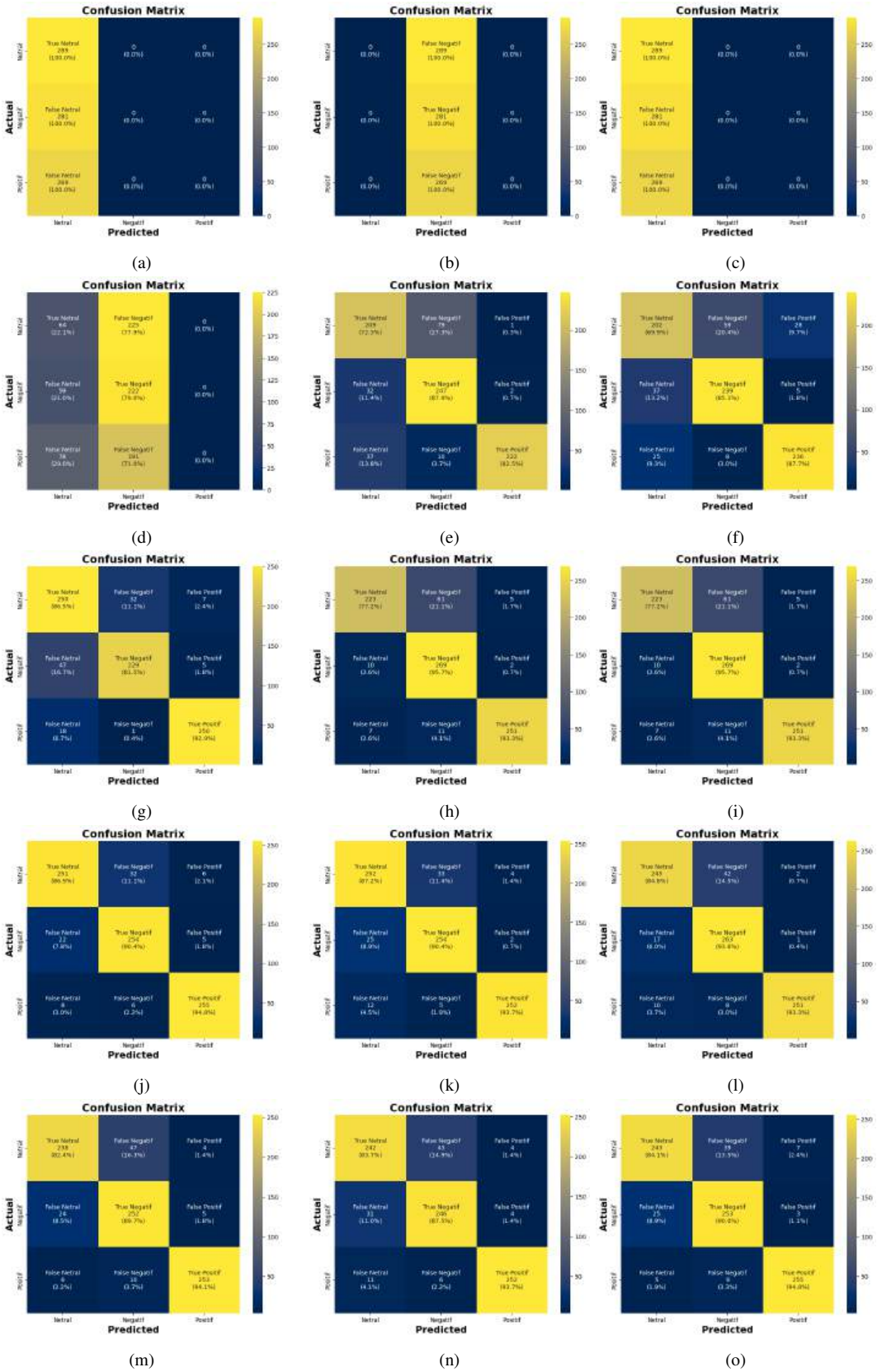
(d) (e) (f)

(g) (h) (i)

(j) (k) (l)

(m) (n) (o)

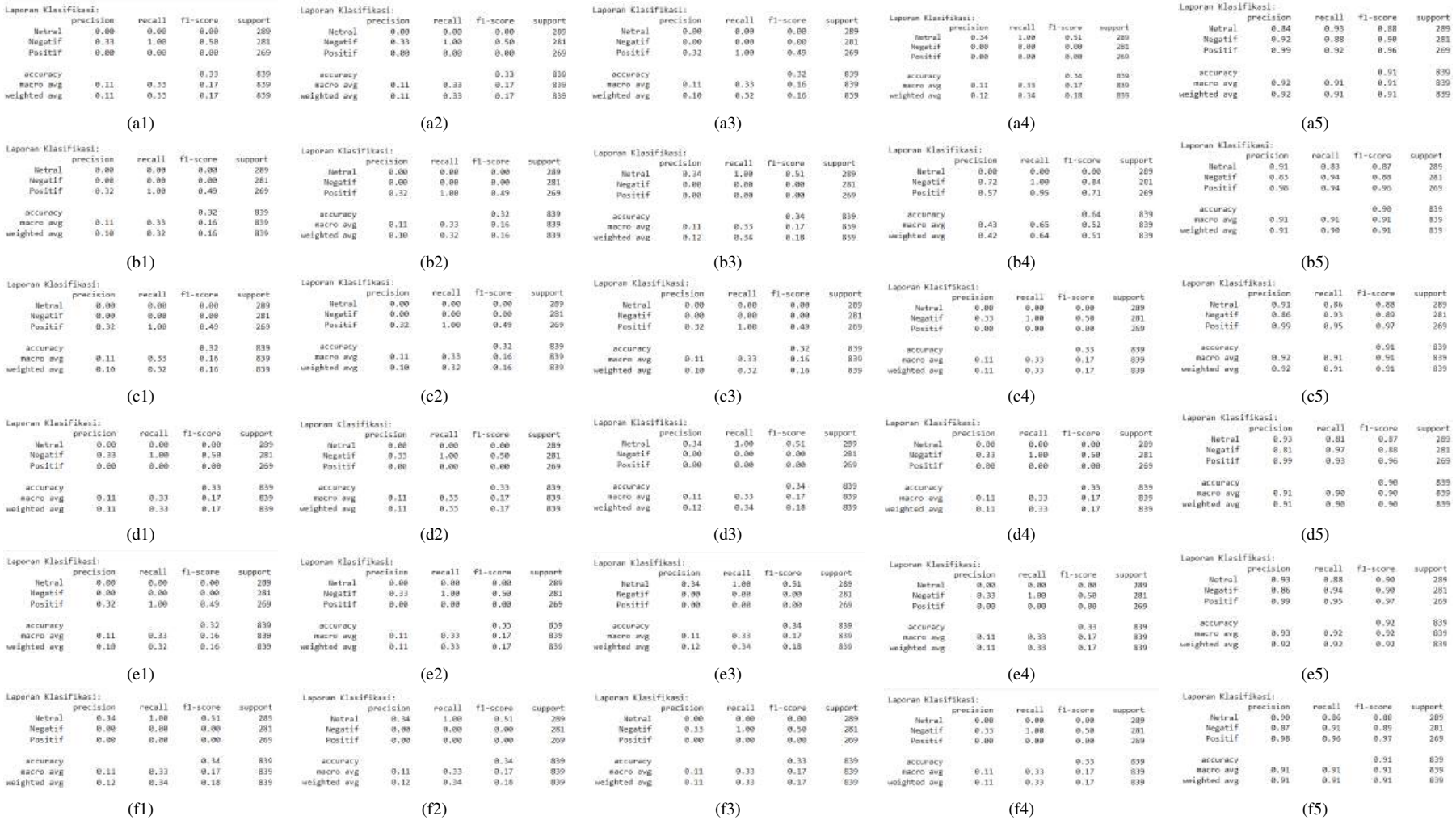
Gambar D.55 *Confusion matrix* Cendol pada *epoch* 15: (a,b,c) *learning rat*e 10e-1; (d,e,f) *learning rate* 10e-2; (g,h,i) *learning rate* 10e-3; (j,k,l) *learning rate* 10e-4; (m,n,o) *learning rate* 10e-5. Gambar (a,d,g,i,m) merupakan *batch size* 2, Gambar (b,e,h,k,n) merupakan *batch size* 4, sedangkan Gambar (c,f,i,l,o) merupakan *batch siz*e 8.



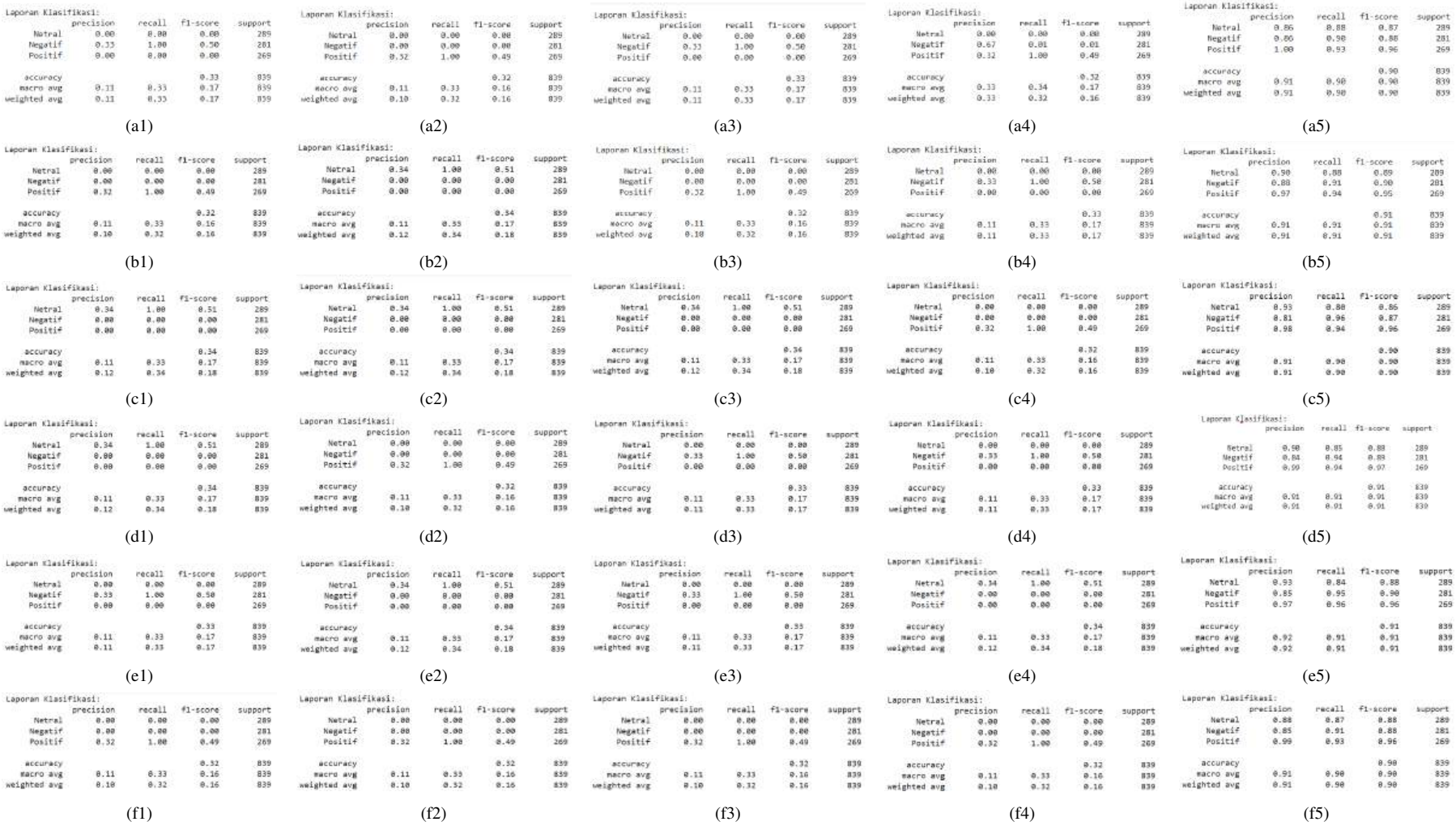
Gambar D.56 *Confusion matrix* Cendol pada *epoch* 20: (a,b,c) *learning rat*e 10e-1; (d,e,f) *learning rate* 10e-2; (g,h,i) *learning rate* 10e-3; (j,k,l) *learning rate* 10e-4; (m,n,o) *learning rate* 10e-5. Gambar (a,d,g,i,m) merupakan *batch size* 2, Gambar (b,e,h,k,n) merupakan *batch size* 4, sedangkan Gambar (c,f,i,l,o) merupakan *batch siz*e 8.

LAMPIRAN IV D

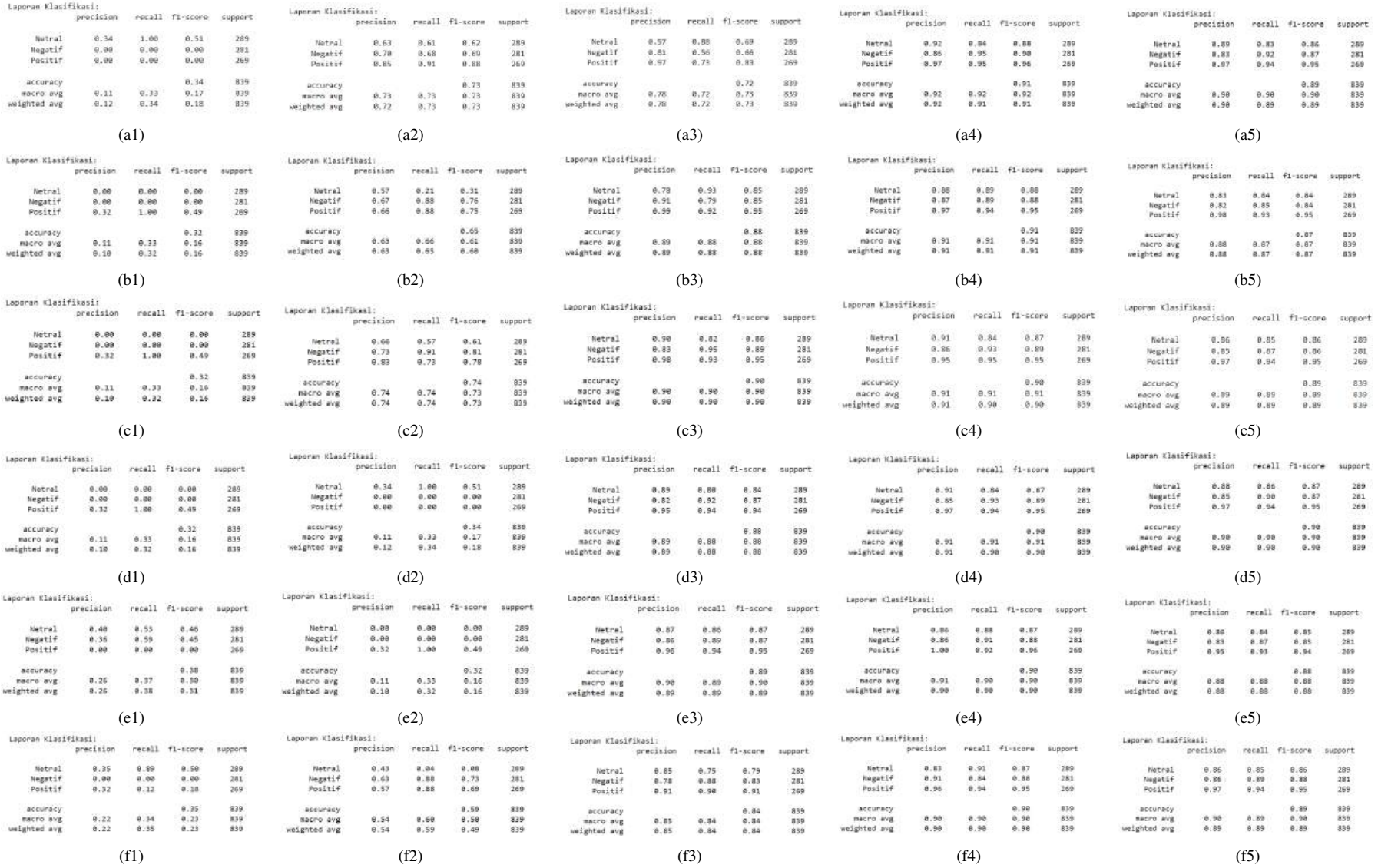
Classification Report



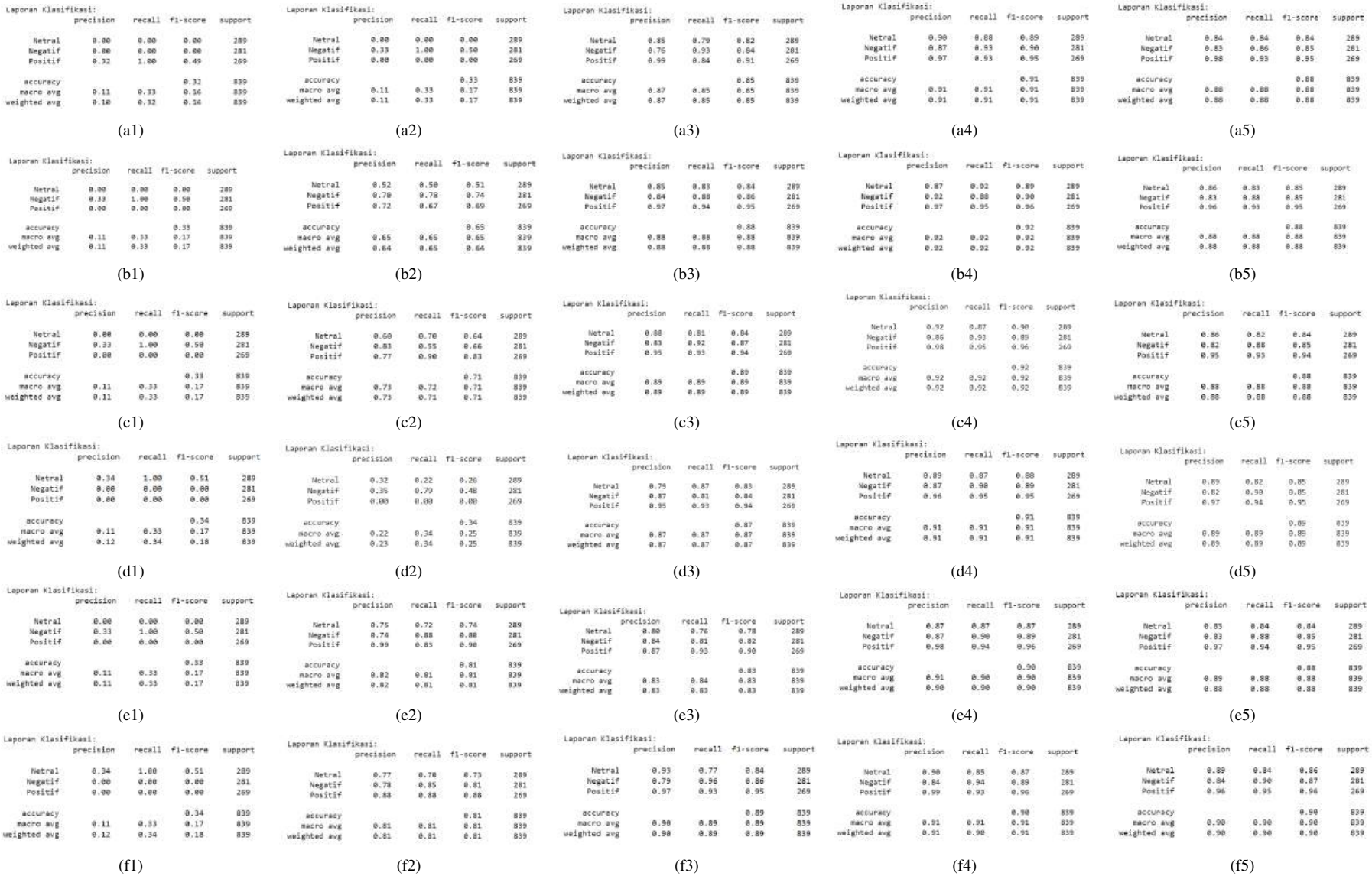
Gambar D.57 Laporan klasifikasi pada IndoBERT dengan *epoch* 5 (a_i, b_i, c_i) dan *epoch* 10 (d_i, e_i, f_i): (a1,b1,c1,d1,e1,f1) *learning rate* 10e-1; (a2,b2,c2,d2,e2,f2) 10e-2; (a3,b3,c3,d3,e3,f3) 10e-3; (a4,b,c4,d4,e4,f4) 10e-4;(a5,b5,c5,d5,e5,f5) 10e-5. Gambar (a_i) *batch size* 2, Gambar (b_i) *batch size* 4, Gambar (c_i) *batch size* 8. Sedangkan, Gambar (d_i) *batch size* 2, Gambar (e_i) *batch size* 4, Gambar (f_i) *batch size* 8.



Gambar D.58 Laporan klasifikasi pada IndoBERT dengan *epoch* 15 (a_i, b_i, c_i) dan *epoch* 20 (d_i, e_i, f_i): (a1,b1,c1,d1,e1,f1) *learning rate* 10e-1; (a2,b2,c2,d2,e2,f2) 10e-2; (a3,b3,c3,d3,e3,f3) 10e-3; (a4,b,c4,d4,e4,f4) 10e-4;(a5,b5,c5,d5,e5,f5) 10e-5. Gambar (a_i) *batch size* 2, Gambar (b_i) *batch size* 4, Gambar (c_i) *batch size* 8. Sedangkan, Gambar (d_i) *batch size* 2, Gambar (e_i) *batch size* 4, Gambar (f_i) *batch size* 8.



Gambar D.59 Laporan klasifikasi pada Cendol dengan *epoch* 5 (a_i, b_i, c_i) dan *epoch* 10 (d_i, e_i, f_i): (a1,b1,c1,d1,e1,f1) *learning rate* 10e-1; (a2,b2,c2,d2,e2,f2) 10e-2; (a3,b3,c3,d3,e3,f3) 10e-3; (a4,b,c4,d4,e4,f4) 10e-4;(a5,b5,c5,d5,e5,f5) 10e-5. Gambar (a_i) *batch size* 2, Gambar (b_i) *batch size* 4, Gambar (c_i) *batch size* 8. Sedangkan, Gambar (d_i) *batch size* 2, Gambar (e_i) *batch size* 4, Gambar (f_i) *batch size* 8.



Gambar D.60 Laporan klasifikasi pada Cendol dengan *epoch* 15 (a_i, b_i, c_i) dan *epoch* 20 (d_i, e_i, f_i): (a1,b1,c1,d1,e1,f1) *learning rate* 10e-1; (a2,b2,c2,d2,e2,f2) 10e-2; (a3,b3,c3,d3,e3,f3) 10e-3; (a4,b,c4,d4,e4,f4) 10e-4;*(a5,b5,c5,d5,e5,f5) 10e-5. Gambar (a_i) batch size* 2, Gambar (b_i) *batch size* 4, Gambar (c_i) *batch size* 8. Sedangkan, Gambar (d_i) *batch size* 2, Gambar (e_i) *batch size* 4, Gambar (f_i) *batch size* 8.

LAMPIRAN V

MODEL

Tabel E.2 *Link Google Drive* hasil penelitian IndoBERT (pth).

Nama Model	Ekstensi	Link Model
5_2_1e − 1	.pth	https://drive.google.com/file/d/1cVlM6I5rMjdK18-JNsmUqfJJO9BumYuI/view?usp=drive_link
5_2_1e − 2	.pth	https://drive.google.com/file/d/1xEDZ7l8n0X4noUv8PCGXaHBIHGcApiGX/view?usp=drive_link
5_2_1e − 3	.pth	https://drive.google.com/file/d/1xEDZ7l8n0X4noUv8PCGXaHBIHGcApiGX/view?usp=drive_link
5_2_1e − 4	.pth	https://drive.google.com/file/d/1ACnJ4oD0JbcYLEJXVXQpM7pv8kGw-3Z_/view?usp=drive_link
5_2_1e − 5	.pth	https://drive.google.com/file/d/1fMqyNRmlGDnuRqzA4KQx68Vikt45XAqf/view?usp=drive_link
5_4_1e − 1	.pth	https://drive.google.com/file/d/1QrGa1WruR74RVv2zrKXe1saXBMxMy9oc/view?usp=drive_link
5_4_1e − 2	.pth	https://drive.google.com/file/d/1Vgg_4XgVgRvyv4H0s60dCQo4FHiwEvSY/view?usp=drive_link
5_4_1e − 3	.pth	https://drive.google.com/file/d/1w4jNzMCwnl66xQ_QIQrUQYbS_bFtsG3S/view?usp=drive_link
5_4_1e − 4	.pth	https://drive.google.com/file/d/1svpB_HpCoT1ZPX4F-PN4qAveYbpM0H6L/view?usp=drive_link
5_4_1e − 5	.pth	https://drive.google.com/file/d/15gQYiwd3FKxeIMKd9eaT9VYu8SAzxg6X/view?usp=drive_link
5_8_1e − 1	.pth	https://drive.google.com/file/d/1Oc-D9ksq18aFT94DKgY-zoxb45FkDWLt/view?usp=drive_link
5_8_1e − 2	.pth	https://drive.google.com/file/d/1cxU3LksYzrDZrSuZ-rPDCQgIZH4kyLVl/view?usp=drive_link
5_8_1e − 3	.pth	https://drive.google.com/file/d/1hby9iijJbcsuja8QHRCxOBfF_b_KsPPz/view?usp=drive_link
5_8_1e − 4	.pth	https://drive.google.com/file/d/1J5Bgc4NMEgL9BsTkaPV9bLtSjY3BVwmf/view?usp=drive_link
5_8_1e − 5	.pth	https://drive.google.com/file/d/1qq9JxvGniL9Iyw0pTWQb0sxG9974Yyec/view?usp=drive_link
10_2_1e − 1	.pth	https://drive.google.com/file/d/1psbDB4zxGdwBNBA5bmn4SFqGjyfbTHQQ/view?usp=drive_link
10_2_1e − 2	.pth	https://drive.google.com/file/d/1zH2t3_huzKCKCE_Ya6T452e7XNmlzON_/view?usp=drive_link
10_2_1e − 3	.pth	https://drive.google.com/file/d/1F146NfjsID_4NQiLUWkienN8X_lOPgyG/view?usp=drive_link
10_2_1e − 4	.pth	https://drive.google.com/file/d/19mwcHOd7ld1QBQk1ujnw8FfA5xkI8fdk/view?usp=drive_link
10_2_1e − 5	.pth	https://drive.google.com/file/d/1effKolySFtBhddhzzQJyXrNrcPeaeP7Y/view?usp=drive_link
10_4_1e − 1	.pth	https://drive.google.com/file/d/1ghHi7KGsV9qdyAqnq8Pq63uI_nHobf7p/view?usp=drive_link
10_4_1e − 2	.pth	https://drive.google.com/file/d/1rFSglL3r4cHxrBZ2wy5FNQVJz2k0-iby/view?usp=drive_link
10_4_1e − 3	.pth	https://drive.google.com/file/d/1Qm-qsTsGK4PCvoKLOK4nt85D8Jf2_e2d/view?usp=drive_link
10_4_1e − 4	.pth	https://drive.google.com/file/d/1DPhPPe63zJfpnJQ6trROe0U57eZtpCXh/view?usp=drive_link
10_4_1e − 5	.pth	https://drive.google.com/file/d/1-sQXaQKt-OAFdyPXT0eYHuCOf-3iicbG/view?usp=drive_link
10_8_1e − 1	.pth	https://drive.google.com/file/d/1ghHi7KGsV9qdyAqnq8Pq63uI_nHobf7p/view?usp=drive_link
10_8_1e − 2	.pth	https://drive.google.com/file/d/1rFSglL3r4cHxrBZ2wy5FNQVJz2k0-iby/view?usp=drive_link
10_8_1e − 3	.pth	https://drive.google.com/file/d/1Qm-qsTsGK4PCvoKLOK4nt85D8Jf2_e2d/view?usp=drive_link
10_8_1e − 4	.pth	https://drive.google.com/file/d/1DPhPPe63zJfpnJQ6trROe0U57eZtpCXh/view?usp=drive_link
10_8_1e − 5	.pth	https://drive.google.com/file/d/1-sQXaQKt-OAFdyPXT0eYHuCOf-3iicbG/view?usp=drive_link
15_2_1e − 1	.pth	https://drive.google.com/file/d/13jhcti9w2zEPW9E0rz3NOpbhNsvzsOQE/view?usp=drive_link
15_2_1e − 2	.pth	https://drive.google.com/file/d/1w-Gj6Uo2l4SEIdtpDAmUOmiQXoRiGW_K/view?usp=drive_link
15_2_1e − 3	.pth	https://drive.google.com/file/d/15x913nswxVGcqQj-qv4KYALOHEuhaJs2/view?usp=drive_link
15_2_1e − 4	.pth	https://drive.google.com/file/d/1Pw9b-CrwTNhnqXl3eyqEsVTufirA-K34/view?usp=drive_link
15_2_1e − 5	.pth	https://drive.google.com/file/d/1024PwA0VXWaF6xC0GvdPVrOkGLOcURGk/view?usp=drive_link
15_4_1e − 1	.pth	https://drive.google.com/file/d/1AI9oNRpA58zgd2zZRgPuHTyTmJv58s3q/view?usp=drive_link
15_4_1e − 2	.pth	https://drive.google.com/file/d/1M6ycFolUQcZoYGdFPfhB-17syzTv2idJ/view?usp=drive_link
15_4_1e − 3	.pth	https://drive.google.com/file/d/1IoGaJ4wrvDssH9X1e8_K7-9_V_csyd4F/view?usp=drive_link
15_4_1e − 4	.pth	https://drive.google.com/file/d/1_kXQJk4ay5IU_m9lnf88Vf5chiGA9HGp/view?usp=drive_link
15_4_1e − 5	.pth	https://drive.google.com/file/d/1xtU3ViWK9PjIYANBiKuWw81C2LEl9JkD/view?usp=drive_link
15_8_1e − 1	.pth	https://drive.google.com/file/d/1aAFNNKAZLxCFQF3wlWsjkZ9UWnDX1DG_/view?usp=drive_link
15_8_1e − 2	.pth	https://drive.google.com/file/d/1n-SFwjNx9mk0cvPxxdPwg5QiCXtB0m37/view?usp=drive_link
15_8_1e − 3	.pth	https://drive.google.com/file/d/1Tg1DUtCDPuQfA0glab7vkTDb75Dab7BZ/view?usp=drive_link
15_8_1e − 4	.pth	https://drive.google.com/file/d/1kGPl4bqYoSJMIRIz_P5f0yeyz7v0N0AB/view?usp=drive_link
15_8_1e − 5	.pth	https://drive.google.com/file/d/1nyMh3X0XkWfMY33lZKuj-JFh9eq_waq1/view?usp=drive_link
20_2_1e − 1	.pth	https://drive.google.com/file/d/1RCMgrzzOz3A4-3BKrPk1-241Tc8c_MUc/view?usp=drive_link
20_2_1e − 2	.pth	https://drive.google.com/file/d/1mK48oiZIyopRfZQjsASqS9ijgp6WFaG_/view?usp=drive_link
20_2_1e − 3	.pth	https://drive.google.com/file/d/1I7klBcMZRG3l5eO-82n_dK5vIaXo5Nq7/view?usp=drive_link
20_2_1e − 4	.pth	https://drive.google.com/file/d/1CpgPc-xbtYWZPIVUtmll6MFZk_HPPivx/view?usp=drive_link
20_2_1e − 5	.pth	https://drive.google.com/file/d/1MmxXAW5ki7yh5gnsnT2nO7ngGFolVzTh/view?usp=drive_link
20_4_1e − 1	.pth	https://drive.google.com/file/d/1vYJ2EZyGB9l2ElZwiEvQeKAP-KI4h6OM/view?usp=drive_link
20_4_1e − 2	.pth	https://drive.google.com/file/d/1nyKHQlzDVH8tWCjesB3kKcjCs6h0dfZt/view?usp=drive_link
20_4_1e − 3	.pth	https://drive.google.com/file/d/18ElHECqvMks9v46Qi6pQCj7OiVe9-ALE/view?usp=drive_link
20_4_1e − 4	.pth	https://drive.google.com/file/d/1U-CpETohK4VO30ora1uel_1kdugO1stF/view?usp=drive_link
20_4_1e − 5	.pth	https://drive.google.com/file/d/1JeGzNtl34SftK-7wUrHpqPPxHQAHDLYe/view?usp=drive_link
20_8_1e − 1	.pth	https://drive.google.com/file/d/1SIp8BE4v9bU-ulPbB4PSGjONj35-oXGh/view?usp=drive_link
20_8_1e − 2	.pth	https://drive.google.com/file/d/1Sy4tJFH7ietbunmeyk7dcpxYytTcIyjR/view?usp=drive_link
20_8_1e − 3	.pth	https://drive.google.com/file/d/1XQzIO6jYR-ztrUea6m_rRSzbmCith3c5/view?usp=drive_link
20_8_1e − 4	.pth	https://drive.google.com/file/d/1OYsQF8AjEo-GywxTq8OKWp_yut2ExoLv/view?usp=drive_link
20_8_1e − 5	.pth	https://drive.google.com/file/d/1q_AwlzZfV3ViYiTRvCnQCl4_huML7Ffe/view?usp=drive_link

Tabel E.3 *Link Google Drive* hasil penelitian Cendol (pth).

Nama Model	Ekstensi	Link Kode Sumber
5_2_1e − 1	.pth	https://drive.google.com/file/d/1GTveBNDrI0hEhYQv31UJzSbX-VMWDBIB/view?usp=drive_link
5_2_1e − 2	.pth	https://drive.google.com/file/d/1wpnyGFtKJt0e5vENXV073NK8q-6H84-x/view?usp=drive_link
5_2_1e − 3	.pth	https://drive.google.com/file/d/19zhf1AZVQyBCYq6O0JWiOH8gg9uJ4Sut/view?usp=drive_link
5_2_1e − 4	.pth	https://drive.google.com/file/d/1wOn-YEc21ufsmuYKoKkl6jJGHtxnX1eQ/view?usp=drive_link
5_2_1e − 5	.pth	https://drive.google.com/file/d/1SzMLMMbWg4LQhbu-jAYI38oz9cH_loSB/view?usp=drive_link
5_4_1e − 1	.pth	https://drive.google.com/file/d/1MjRIQDfDPSeEfoh3JeLsvy5ZdJ2LKaP3/view?usp=drive_link
5_4_1e − 2	.pth	https://drive.google.com/file/d/1ELVVkhkFTK7AR_hmKdfkecZnX9z0ZQsw/view?usp=drive_link
5_4_1e − 3	.pth	https://drive.google.com/file/d/17XUidbBQgs8wWDNrF8kIke5gJlx9z2bQ/view?usp=drive_link
5_4_1e − 4	.pth	https://drive.google.com/file/d/1e6LY415D-NI6e6HBrp00RoSwzcL5EsSa/view?usp=drive_link
5_4_1e − 5	.pth	https://drive.google.com/file/d/1fsm-zxJdeuLS3uS1FU4YwNrcR67OPe-1/view?usp=drive_link
5_8_1e − 1	.pth	https://drive.google.com/file/d/1X9SZcPkIRRHxB8ITf8Oy336w0dTB3DqJ/view?usp=drive_link
5_8_1e − 2	.pth	https://drive.google.com/file/d/1CcTm3WvkbTMszyFB5ZyctPQH95aDqaHx/view?usp=drive_link
5_8_1e − 3	.pth	https://drive.google.com/file/d/14nzIU0koHiX26eVmSn6n8qQB-CxkuXe2/view?usp=drive_link
5_8_1e − 4	.pth	https://drive.google.com/file/d/1oFgTeCWA527Esa4-1WtevBuaPM06BLOn/view?usp=drive_link
5_8_1e − 5	.pth	https://drive.google.com/file/d/1ZWv-e7r4YpmBVNjZXGo1CR7a3qFOu5N1/view?usp=drive_link
10_2_1e − 1	.pth	https://drive.google.com/file/d/16Gtdzyn--xnRsmdzP8g6AJ6ShpWj6zeY/view?usp=drive_link
10_2_1e − 2	.pth	https://drive.google.com/file/d/1yyCfYebHcDr7KxRt2odl--0byjK_f94m/view?usp=drive_link
10_2_1e − 3	.pth	https://drive.google.com/file/d/1vzIb1DQ5wMeJ5_jWrzryT0EjdREzLx_4/view?usp=drive_link
10_2_1e − 4	.pth	https://drive.google.com/file/d/1TH_J8mzoYL1JXaLgfNwycE_vKNdUDDVd/view?usp=drive_link
10_2_1e − 5	.pth	https://drive.google.com/file/d/1YcRKUmwnrH7zkkjcLORETpBJmTp-9KhQ/view?usp=drive_link
10_4_1e − 1	.pth	https://drive.google.com/file/d/1kljs_iKmXoUaH0BmPHyd7hMeqUz0Y8Qv/view?usp=drive_link
10_4_1e − 2	.pth	https://drive.google.com/file/d/1yO3n67lewbJSiYNOSD_21HsPJgP8rFNp/view?usp=drive_link
10_4_1e − 3	.pth	https://drive.google.com/file/d/1TRY9Wv3dX-I84GfdeBm4rzBJrffK92rw/view?usp=drive_link
10_4_1e − 4	.pth	https://drive.google.com/file/d/1SbalDpvqt2-YnirAzkby4xSm3uBqVeqR/view?usp=drive_link
10_4_1e − 5	.pth	https://drive.google.com/file/d/1Wt6tg0NekvsgiS2xzPzzm0hfMwR5QSti/view?usp=drive_link
10_8_1e − 1	.pth	https://drive.google.com/file/d/1pbpuFxpuktZ96KzksvnYLg_CTmVNQ_3a/view?usp=drive_link
10_8_1e − 2	.pth	https://drive.google.com/file/d/1KVse5YexVuzZg40ya10DH1DeWOjy9B3A/view?usp=drive_link
10_8_1e − 3	.pth	https://drive.google.com/file/d/1ld0QDwl9BDR10RQMhMYV8AIJgG3o8XQn/view?usp=drive_link
10_8_1e − 4	.pth	https://drive.google.com/file/d/1bhCxXX6Zgg45NE-Qk0oaz0FYnf6ELkcc/view?usp=drive_link
10_8_1e − 5	.pth	https://drive.google.com/file/d/1z8bJESrhpM_upsyEYdLcYUwyEAJAvMx6/view?usp=drive_link
15_2_1e − 1	.pth	https://drive.google.com/file/d/1IkJAMQHiY-ea1VqIAPKfPplFAnJqfFhR/view?usp=drive_link
15_2_1e − 2	.pth	https://drive.google.com/file/d/1MHftLN2ayKHOl48lHc7oOiInV9FjH5Qz/view?usp=drive_link
15_2_1e − 3	.pth	https://drive.google.com/file/d/1EYq1bfTUh5QI8ErMlS8HuYwsEC3CrfPh/view?usp=drive_link
15_2_1e − 4	.pth	https://drive.google.com/file/d/1FKhlEjcOlR7COF93B9cipV9auYUaQJnL/view?usp=drive_link
15_2_1e − 5	.pth	https://drive.google.com/file/d/1mq-it1rKmi4lEGx2dObj3nUU5s8cQqqI/view?usp=drive_link
15_4_1e − 1	.pth	https://drive.google.com/file/d/1o2M4NZOYfbYBhqUBcrJWK9Ymo1kleaqu/view?usp=drive_link
15_4_1e − 2	.pth	https://drive.google.com/file/d/16gl8pSb01o653qleKRKtzqLu_j6-Q-DY/view?usp=drive_link
15_4_1e − 3	.pth	https://drive.google.com/file/d/18zbZSMDCH8AOp3kSzZ6tzaqshxX12_u5/view?usp=drive_link
15_4_1e − 4	.pth	https://drive.google.com/file/d/1H5Y8zA0_bWyAyb3lwaImfJdETdKBP23E/view?usp=drive_link
15_4_1e − 5	.pth	https://drive.google.com/file/d/1PDLjiyfurdtyi7HkqZ_lLgGk9dtfaheV/view?usp=drive_link
15_8_1e − 1	.pth	https://drive.google.com/file/d/1AXWG5DRT_7zSZYyN8-Je_VHZRBzEUh2u/view?usp=drive_link
15_8_1e − 2	.pth	https://drive.google.com/file/d/1pOGCrEpMY8VoFznvuJYuRVO9b8pokQyG/view?usp=drive_link
15_8_1e − 3	.pth	https://drive.google.com/file/d/1umRtOzRYPCc2eL2amfaArsuJB_hyu1gv/view?usp=drive_link
15_8_1e − 4	.pth	https://drive.google.com/file/d/1ch0urV7aPc7uuN3Duo6RLtkH0Ux8FWa-/view?usp=drive_link
15_8_1e − 5	.pth	https://drive.google.com/file/d/1lMtFFfIA1kiAATK7Ez7S31VnxUH8w6VS/view?usp=drive_link
20_2_1e − 1	.pth	https://drive.google.com/file/d/1hCiHm5Ny_kFCIiD-HVaBvKf2j_ePxdvl/view?usp=drive_link
20_2_1e − 2	.pth	https://drive.google.com/file/d/1vSvPd1G-QpK2d4tApIwd9yT9l_7MBa23/view?usp=drive_link
20_2_1e − 3	.pth	https://drive.google.com/file/d/1iY7RBzdzBQpEFsvt4EBX57p20ab2WB8z/view?usp=drive_link
20_2_1e − 4	.pth	https://drive.google.com/file/d/12s-XHOwwcF7g8a_--b9hOa0v_lMj0QAR/view?usp=drive_link
20_2_1e − 5	.pth	https://drive.google.com/file/d/1ZJxp1Dok9Z-5BuZeVnN7lHZ6gWyejNRF/view?usp=drive_link
20_4_1e − 1	.pth	https://drive.google.com/file/d/1jQOpbrw10HVFkl6HOQJjmZQLB3Y2MaAI/view?usp=drive_link
20_4_1e − 2	.pth	https://drive.google.com/file/d/1_ZctlW9gsJrKWUf7rl-PtfEl27bzD-xh/view?usp=drive_link
20_4_1e − 3	.pth	https://drive.google.com/file/d/1cVNi7zAzsftZlWPIiS2tOAvusMIZrqgK/view?usp=drive_link
20_4_1e − 4	.pth	https://drive.google.com/file/d/1KTP8-7wHUcOv2rswfjnHuyOmJNCpxzCP/view?usp=drive_link
20_4_1e − 5	.pth	https://drive.google.com/file/d/1j6UJm2V0vxIBIPJpgMFSUtxTLlFngYTB/view?usp=drive_link
20_8_1e − 1	.pth	https://drive.google.com/file/d/138zgfBtn_wsKTThs0iNpf8IiTzmCZLCp/view?usp=drive_link
20_8_1e − 2	.pth	https://drive.google.com/file/d/1n6Jj1aERxE8jP9pZn8sotcxhseTzWuhN/view?usp=drive_link
20_8_1e − 3	.pth	https://drive.google.com/file/d/11jj2dgFWW_9t2D3hBNeZH_qcBgSWLiYZ/view?usp=drive_link
20_8_1e − 4	.pth	https://drive.google.com/file/d/1OU27JiUMl3oF1EZ82JqsHh5d8weROfma/view?usp=drive_link
20_8_1e − 5	.pth	https://drive.google.com/file/d/1zdmb5P8QTXDRAwAF5u4MsouQG-F7dvBX/view?usp=drive_link