TRISKA CAHAYATI

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Master's student in Electrical Engineering (combined Bachelor's and Master's program) at Bandung Institute of Technology (ITB) with a strong foundation in telecommunications, network systems, wireless communication, and emerging technology including AI, ML, and IoT.

EDUCATION

2024-2025 | Master of Electrical Engineering | Bandung Institute of Technology | GPA 3.91
Thesis: Learning-Based Dynamic Clustering and Interference Mitigation for Energy-Efficient CF Massive MIMO
- Developed a novel approach combining **Deep Reinforcement Learning** with dynamic clustering to enhance energy efficiency and mitigate interference in Cell-Free Massive MIMO systems.

2020-2024 | Bachelor of Telecommunications Engineering | Bandung Institute of Technology | GPA 3.45
Thesis: Satellite 5G Convergence – June 2024
- Designed an Antenna System on **a KU-Band Low Orbit Satellite Earth Station** to capture signals from Starlink in a stationary or moving state using **CST**.
- **Published** research findings and presented at the **18th International Conference on Telecommunication Systems, Services, and Applications (TSSA)**

EXPERIENCES

PT. Telekomunikasi Indonesia (Persero) – Bandung, Indonesia
IoT Researcher Intern | August 2024 – January 2025
- **Designed and managed a custom PCB layout** for IoT-based temperature and humidity sensors using Eagle, incorporating microcontrollers and communication modules.
- **Assembled, tested** the PCB, and **Programmed firmware** for **data transmission** to ANTARE**S IoT Platform**, including debugging and optimization, contributing to seamless **hardware-software integration.**

PT. LAPI ITB (Radar GCI) – Bandung, Indonesia
Research Assistant | September 2024 – January 2025
- Assisted in research and development of **Digital Signal Processing (DSP)** techniques. Conducted signal quality analysis using **Vector Network Analyzer** (VNA) and **Spectrum Analyzer (SA).**

PT. Len Industri Persero – Bandung, Indonesia
System Analyst Intern (MSIB Batch 5) | August 2023 – December 2023
- **Analyzed systems, created workflow diagrams**, and designed system architecture.
- Spearheaded and **actively participated** in testing, final signoff, and **quality assurance** for product launches and releases. **Collaborated** with software developers and various technical teams.

State of Polytechnic Batam – Batam, Indonesia
Radio Frequency **Engineer** Intern | June 2023 – August 2023
- Successfully **designed** and **simulated** an optimum RF Amplifier using ADS for S-band Operation, applying **Design of Experiment (DoE)** principles for parameter optimization and performance validation.

Radio and Microwave Lab of Telecommunication Engineering Department – Bandung, Indonesia
Coordinator Laboratory Assistant | February 2024 – June 2025
- **Supervised** 13+ assistants for Digital Communication Systems, and Ex-coordinator of Communication Electronics course and Electrical Circuits course.
- **Managed** laboratory scheduling, modules, assignments**; instructed students** on proper use of **testing equipment** and **testing procedures**.

RESEARCH AND PROJECTS --

Oxywhere by Viper – June 2023

- **IoT** application for oxygen level tracking. **Submitted** in FIND IT! UGM 2023 as a **finalist**.
- **Collaborated** with a team of 3 people as **Hustler**, showcasing my adeptness in **project control** and management.

Zuzu by Kireina (2nd place in UI/UX Division at PRA-GEMASTIK XV 2022 ITB**) – October 2022**

- IoT-based UI/UX project for water tracking and purification
- **Managed** project timeline and collaborated with team for system design and presentation.

IoT-Based Smart Plant Monitoring System

- Developed an IoT-based system, integrating NodeMCU ESP8266, DHT11, and soil moisture sensors with a water pump. Used **cloud-based** data transmission via Blynk Cloud for remote monitoring and control.

Secret Knock Door Lock

- Developed an innovative **embedded system**, implementing hardware integration including Arduino, piezoelectric sensors for knock input, and a 5V gear reduction motor for lock actuation

ORGANIZATIONAL EXPERIENCES--

Ikatan Mahasiswa Telekomunikasi "Signum" ITB – Bandung, Indonesia

*Supervision **Coordinator** of Member's Representative Assembly* | May 2022 – February 2024

- **Designed** monitoring parameters and **monitored** executive and senate activities within the organization.

Unit Kebudayaan Mahasiswa Bumi Sriwijaya ITB (MUSI) – Bandung, Indonesia

Head of Art and Culture Department | August 2022 – May 2023

- **Led coordination** and **supervision** of three divisions: Youth Division, Dance Division, and Music Division. Orchestrated activities fostering the artistic and cultural potential of members.

Head of Dance Division | May 2021 – July 2022

- **Planned** and conducted weekly learning sessions for South Sumatra traditional dance education, developed training media, **managed** class scheduling, and monitored participant progress

AWARDS AND ACHIEVEMENTS --

Master's Program **Scholarship Awardee** | Scholarship | August 2024 – 2025

FAL **Bintang Beasiswa** Batch 4 Awardee | Scholarship | September 2020 – 2024

Finalist of Hackathon Competition FIND IT! 2023 | National | UGM

2nd Place UI/UX Division of PRA – GEMASTIK XV 2022 | ITB

A Certified in Mathematics IGCSE 2018 | International

TECHNICAL AND SOFT SKILLS---

Language | Python, C++, Java, HTML, CSS, Haskell   Productivity | Microsoft Office, Google Workspace

Software and Tools | MATLAB, Git, CST, ADS,   Network | Routing & Switching

Arduino, Eagle, Inventor   Protocol | HTTP/REST, MQTT, TCP/IP

Soft Skills | **Problem Solving, Analytical Thinking**, Communication, Leadership, Teamwork and Collaboration, Management, Attention to Detail, Adaptability

BADGES, COMPLETED COURSES, CERTIFIED COURSES---

CCNAV7 DTS CNE ITB 2022 (Completed Course), Cybercops | Cisco Networking Academy

Data Visualization, Programming with Python | Dicoding Indonesia

Create and Manage Cloud Resources, Perform Foundational Infrastructure Tasks | Google Cloud

Prepare Data for Looker Dashboards and Reports | Google Cloud

Microsoft Azure AI Fundamentals, Microsoft Azure Fundamentals | Microsoft Azure