TOMY TJANDRA

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Tomy is currently pursuing a master's degree in Computer Science and Information Engineering (CSIE) at NTUST. He has a strong educational background in Computer Science and Mathematics, which has enabled him to develop a deep understanding of Artificial Intelligence. As a former data science instructor with over two years of experience, he has extensive knowledge in teaching and applying Python and R programming languages for data analysis and machine learning. He is a detail-oriented, organized, and persistent individual who believes that life is a non-stop learning journey, and that learning-by-teaching is the most effective method in the process.

EDUCATION BACKGROUND

National Taiwan University of Science and Technology (NTUST) — **Taipei, Taiwan**
Department of Computer Science and Information Engineering (Master) — *Sep 2022 – Aug 2024 (expected)*

- Cumulative GPA: 4.30 / 4.30 (24 course credits)
- Awardee of The Ministry of Education (MOE) Taiwan Scholarship Program.
- Currently involved in EEG emotion recognition research using federated learning techniques in the Machine Learning laboratory.
- Led team projects in various courses. Selected projects include:
  - [Dec 2023] Artificial Intelligence: StyleSpire - Stable Diffusion Inpainting [Report] [Slides] [Demo]
  - [Jun 2023] Big Data Analytics: Basket Analysis for 7-Eleven (Invoice Dataset) [Slides]
  - [Jun 2023] Social Network Analysis: Exploring Taipei's YouBike 2.0 Rental Network [Slides]
  - [Jun 2023] Soft Computing: Optimizing Machine Learning Hyperparameters with Evolutionary Algorithm [Report]
  - [Dec 2022] Advanced Database System: An LSTM-Based Approach for Two-Step SQL Injection Prevention [Report] [Slides] [Demo]
  - [Dec 2022] Machine Learning: Sentiment Classification with Averaged Word2Vec and Dense Layer on IMDb Dataset [Report] [Slides]

Bina Nusantara (BINUS) University — **West Jakarta, Indonesia**
Bachelor of Computer Science (S.Kom.) and Bachelor of Science (S.Si.) in Mathematics — *Graduated Dec 2019*

- Cumulative GPA: 3.96 / 4.00 (202 course credits)
- Distinguished by *summa cum laude* and best graduate of the Computer Science & Mathematics study program. [Certificates]
- Thesis: Linear and Nonlinear Reaction-Diffusion Model Analysis of Brain Glioma Growth using Crank-Nicolson Scheme Based on Python [Paper]
- Relevant Courses: Calculus, Applied Linear Algebra, Differential Equations, Numerical Methods, Mathematical Statistics, Database Systems, Artificial Intelligence, Computer Vision, Natural Language Processing

WORK EXPERIENCE

Algoritma Data Science School — **South Jakarta, Indonesia**

The following three descriptions apply to my entire tenure at Algoritma:

- Lead Instructor: Delivered materials for 26 public and 7 corporate classes with 342 hours of class and 821 students from a diverse range of age groups, educational, and industrial backgrounds. The materials included data analytics, data visualization, and machine learning using Python and R programming languages. Achieved a 70.17% rating from students who rated the instructor's knowledge and overall satisfaction more than 9 out of 10.
- Teaching Assistant: Assisted the lead instructor in conducting conducive workshops and helped students to solve technical problems with 818 hours of class.
- Course Producer: Produced custom materials for in-house corporate training. Selected materials include:
  - [Feb 2022] TelkomAthon #3: Deep Learning in Python using Keras Tensorflow [Material] [Testimonial Video]
  - [Mar 2021] AdIns: Loan Default Prediction using Tree-Based Models in Python [Material] [Testimonial Video]
  - [Dec 2020] Bank Permata: Customer Attrition Prediction using Tree-Based Models and Hierarchical Clustering of Customer Monthly Balance in R [Material] [Testimonial Video]

Senior Data Science Instructor — *Dec 2021 – Jul 2022*

- Buddy: Reviewed and provided qualitative feedback to six trainees for their data science projects and class delivery preparation.
- Hiring Manager: Interviewed potential trainees and interns in the recruitment process and developed a new framework to assess their technical and class delivery skills.
- Project Mentor: Guided corporate students to solve real business problems. Selected projects include:
  - [May 2022] TelkomAthon #3: Smart Add-on Offering Prediction
  - [Dec 2021] Bank Central Asia (BCA) Batch #11: Mitigation of Incomplete Address Inquiry using Text Classification and Geocoding
- Project Executor: Produced educational projects for internal needs. Selected projects:
  - [May 2022] Streamlit Dashboard for Indonesia's Trending YouTube Video Statistics [App] [GitHub]
  - [Apr 2022] Zoom Chat Analyzer [App] [GitHub]

Data Science Instructor — *Jul 2020 – Nov 2021*

- Picket Team: Was responsible for answering data science-related questions via email and conducting one-on-one mentoring sessions for students. Successfully revamped the flow of mentoring session requests and reduced manual data entry burden.
- FAQ Maintainer: Initiatively compiled, deployed, and maintained frequently asked technical questions.
  - AskAlgo R using bookdown package [App]
  - AskAlgo Python using Jupyter Book [App]
- Competition Judge: Served as a representative to assess participants' project presentation objectively.
  - [Nov 2021] Bank Indonesia: Data Visualization using Shiny Dashboard
  - [Nov 2021] National Data Summit 2021 by Telkom University Bandung [About]

- Content Maker: Produced educational content for active students and alumni. Selected contents include:
  - [Aug 2021] Torch Handbook in Python and R [Blog]
  - [Jan 2021] Bank Rakyat Indonesia (BRI) Data Hackathon 2021 Workshop: Time Series Forecasting using Prophet [Blog]
  - [Nov 2020] Survival Analysis using PySurvival: Predictive Maintenance [Blog]
  - [Nov 2020] Time Series Clustering using Hierarchical-Based Method [Blog]

Data Science Trainee *Jan 2020 – Jul 2020*

- Completed Algoritma Growth Program as part of competencies development. Selected projects include:
  - [Jul 2020] Suicide Statistics Shiny Dashboard [App]
  - [Jun 2020] Song2Vec: Music Recommender [Blog]
  - [May 2020] Casting Product Quality Inspection using Convolutional Neural Network [Blog]
  - [Apr 2020] Understanding Word2Vec with Gensim and Elang [GitHub]
  - [Mar 2020] Image Compression using K-Means Clustering and Principal Component Analysis in Python [Blog]
  - [Mar 2020] Develop Python Package "elang" for Word Embedding [GitHub]
  - [Feb 2020] Text Mining for Indonesian Online News Articles [Blog]

Bank Central Asia (BCA) **Central Jakarta, Indonesia**

Wintel Infrastructure Intern *Aug 2018 – Feb 2019*

- Created a desktop application to implement Analytic Hierarchy Process (AHP) method using C#.
- Built an interactive dashboard for hardware and software inventory tracking using Microsoft Power BI.
- Scraped internal telephone directory website using Python Beautiful Soup.

ORGANIZATIONAL EXPERIENCE

BINUS Student Learning Community (BSLC) **West Jakarta, Indonesia**

Mentor Scholarship *Sep 2015 – Jun 2018*

- Conducted peer-to-peer mentoring for Computer Science, Mathematics, and Statistics subjects.
- Consecutively became a mentor for 6 semesters and handled 5 to 6 mentees each semester.
- Awarded as "Best Mentor for Even Semester 2017-2018" by Student Advisory Center (SAC) BINUS University. Three out of five mentees were also awarded as the best mentee, which was evaluated by GPA increment, mentoring frequency, and class attendance. [Certificate]

RELEVANT ONLINE COURSES

Coursera

DeepLearning.AI Deep Learning Specialization (Credential ID: KR84A9CP2V5L) *Mar 2021 – Jul 2021*

- Completed five courses to understand theoretical concepts and train deep learning models using Python and TensorFlow.

DeepLearning.AI TensorFlow Developer (Credential ID: ATA9DVCUDAGX) *Oct 2020 – Dec 2020*

- Completed four courses to build various deep learning models using TensorFlow.

Machine Learning by Andrew Ng (Credential ID: NNR2ZVARGESQ) *Oct 2019*

- Completed a course to implement basic machine learning algorithms in Matlab/Octave.

AI Planet

Machine Learning Advanced Bootcamp *Dec 2020 – Jan 2021*

- Ranked first on the boot camp leaderboard and listed as one of the best model deployment and explainable AI notebooks. [About 1] [About 2]
- Created Loan Approval Application and Explainable Heart Disease Classifier with SHAP notebook as final project. [App] [GitHub] [Blog]

Udacity

Deep Learning Nanodegree Program (Credential ID: KWSPQZWK) *Mar 2020 – Sep 2020*

- One of top 1,600 performers who enrolled through the Bertelsmann Technology Scholarship Program – AI track. [About]
- Completed six core curriculums on deep learning and finished five deep learning projects using PyTorch. [GitHub]

SKILLS

Languages:

- Indonesian (Native)
- English (Proficient); TOEIC 960 / 990 [Certificate]

Technical Skills and Programming Languages:

- Data collection using web scraping: **Python** (Beautiful Soup, PySelenium)
- Data querying: **SQL** (Data Manipulation Language and Data Definition Language)
- Data analysis: **Python** (Pandas, NumPy) and **R** (tidyverse: dplyr, stringr, tidyr, purrr)
- Data visualization: **Python** (Matplotlib, Seaborn, Plotly) and **R** (ggplot2, plotly, flexdashboard, shinydashboard)
- Machine learning: **Python** (scikit-learn, Statsmodels, Prophet, Gensim, PySurvival) and **R** (caret, randomForestSRC)
- Deep learning: **Python** (Keras TensorFlow, PyTorch) and **R** (keras)
- Application development: **Python** (Flask, Streamlit, PyQt5)

Tools: Jupyter Notebook, RStudio, Anaconda Prompt, Visual Studio Code, GitHub, Google Colab, Deepnote, Heroku, Netlify