Prismahardi Aji Riyantoko

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Summary

Prismahardi Aji Riyantoko was born and grew up in Lumajang, East Java province of Indonesia. He completed his undergraduate studies (BSc 2016) and postgraduate studies (MSc 2018) in the Department of Mathematics at Institut Teknologi Sepuluh Nopember.
Currently, he is continuing his studies as a doctoral student at Okayama University, Japan, under the supervision of Prof. Nobuo Funabiki, Ph.D.
His research interests are in computational mathematics, data analysis in renewable energy, and unmanned aerial vehicles. Currently, he is also focused on learning management systems.
He also enjoys in writing literatures, playing chess, and technology enthusiast.

Education

Okayama University — Okayama, Japan
P.hD candidate in Information and Communication Engineering — *Oct 2023 – Sep 2026, (**Ongoing**)*

Institut Teknologi Sepuluh Nopember Surabaya — Surabaya, Indonesia
M.Sc in Applied Mathematics — *Jan 2017 – Aug 2018*

Institut Teknologi Sepuluh Nopember Surabaya — Surabaya, Indonesia
B.Sc in Computational Mathematics — *Aug 2012 – Aug 2016*

Experience

Universitas Pembangunan Nasional Veteran Jawa Timur — Surabaya, Indonesia
Lecturer — *September 2020 – Present, Full-time*

- Delivering engaging lectures, advisoring students, conducting groundbreaking research, contributing to academic development, and continuously advancing expertise, all while collaborating with the academic community.

Viseo — Surabaya, Indonesia
IT Support Consultant — *December 2018 – October 2019, Full-time*

- *Data Analyst* who analyzed data related to employees, customers, and tenants at *Changi Airport Group* using Salesforce as a CRM platform to deliver data-driven insights and information.
- *Support Consultant* who assists the IT team of *Changi Airport Group* by debugging and errors handling.

Academic Position

Department of Data Science — UPNVJT
Assistant Professor — *July 2022 – presents*

Administrative Service

Election Committee of the Dean — Faculty of Computer Science - UPNVJT
Committe — *December 2022*

- Conducting the selection process fairly, transparently, and in accordance with established procedures.

Kontes Kapal Cepat Tak Berawak Nasional — Pusat Prestasi Nasional
Head of Events — *August 2022 – November 2022*

- Planning, coordinating, and executing all aspects of the competition, including overseeing the organizing committee, communicating with participants, and managing logistics and finances.
- Developing the event concept, assigning tasks, providing guidance to all committees, and finding solutions to any issues that arise during the event's execution.

Research Grant

Company Grant: This grant support to examines the customer segmentation of PDAM Surabaya by employing a survey-based data collection method. (2023)

Uber Publication: for article publication with title Stock Price Analysis using Hyperparameter Optimization with Long-Short Term Memory (LSTM) Model. (2023)

Uber Publication: for article publication with title Weather Prediction using Seasonal ARIMA (SARIMA) Model: A Case Study of Surabaya. (2021)

Recognition

MEXT Awardee: Awarded a *Monbukagakusho* scholarship for a doctoral degree with the opportunity to study at Okayama University, Japan, under the supervision of Prof. Nobuo Funabiki. (September 2023)

Projects

Learning Management Systems | *GitHub*

- A project to develop a system that assists students in learning mathematics and statistics using a learning management system, which utilizes the *Jupyter Notebook* environment and *NbGrader* tools to manage the grading system.

Unmanned Aerial Vehicles | *GitHub*

- An *Unmanned Aerial Vehicles (UAV)* equipped with specialized sensors has been developed to measure the concentration of greenhouse gases such as CO_2 and methane, as well as other pollutants.
- This *UAV* can be used to assess the health of ecosystems such as in the rainforest and agricultural land, as well as detect changes in vegetation patterns and soil conditions.

Renewable Energy | *GitHub*

- A mathematical model was developed to characterize microalgae biomass production, considering the effects of light intensity, temperature, carbondioxcide, and nutrient consumption.
- This model, programmed in *MATLAB*, incorporates these parameters into a single specific growth rate equation, enhancing the understanding of microalgae growth dynamics for biofuel applications.

Matrix-Quantum Computation | *GitHub*

- A study investigated the computational complexity of estimating properties of matrix functions using quantum computation.
- The research explored the dividing line between classical and quantum computational power in computing matrix elements or local measurements on quantum states, providing insights into the efficiency of quantum algorithms for matrix-related problems.

Relevant Coursework

Major coursework: Calculus, Numerical Analysis, Linear Algebra, Discrete Mathematics, Introduction to Statistics, Probability Theory

Minor coursework: Data Wrangling, Fundamentals of Designing Data Science Projects, People Analytics, Business Data Modelling

Certificates

Certificate of Competence *October 2022*
Associate Data Scientist

Certificate of Competence *October 2020*
Junior Web Programmer

Organizations

Institute of Electronics, Information, and Communication Engineering (IEICE) *2024 – 2025*
Member

Institute of Electrical and Electronics Engineers (IEEE) *2022 – 2023*
Member