

# Dhanar Agastya Rakalangi

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## SUMMARY

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A Mathematics undergraduate with strong interest in software engineering, particularly in back-end and mobile development. Experienced in building academic and personal projects, including designing and implementing RESTful APIs for web applications and developing mobile apps with Flutter. Proficient in programming languages such as Java, JavaScript, and Dart, with hands-on experience using frameworks and tools including Node.js, React.js, Tailwind CSS, and Bootstrap. Passionate about developing scalable systems, integrating APIs, and delivering clean, maintainable code for both web and mobile platforms.

## INTERNSHIP EXPERIENCE

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### General Election Commission of East Java Province

July 2025 – August 2025

- Conducted sentiment analysis of SIREKAP application reviews on Google Play using text preprocessing techniques and the Naive Bayes algorithm to evaluate public perception.
- Created data visualizations & concise reports (trend charts, word clouds, recommendations) to support strategies for improving the quality of KPU's digital services.
- Prepared regular reports on analysis results and strategic recommendations to support the evaluation of KPU's digital service quality.

## PROJECTS

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### Notes App Back-End

[Link to Demo](#)

A back-end service for a note-taking application, designed with a focus on scalability, reliability, and clean code practices. The system provides RESTful APIs for managing notes, user authentication, and secure data handling.

**Tech Stack:** Node.js, JavaScript, PostgreSQL, JWT, RabbitMQ, Redis

### Open Music API

[Link to Demo](#)

A back-end system for managing digital music collections, playlists, and collaborations. Supports authentication, playlist sharing, caching with Redis for performance, and an export service via RabbitMQ.

**Tech Stack:** Node.js, Hapi.js, PostgreSQL, JWT, RabbitMQ, Redis

### Movie Web Database

[Link to Demo](#)

Web Movie DB is designed as a lightweight movie database search engine. Users can search movies by keyword, browse results in card format, and view detailed information such as genre, director, actors, and plot using a modal dialog.

**Tech Stack:** HTML5, Bootstrap 5, JavaScript (ES6+), Fetch API, OMDb API

### Study Tracker App

[Link to Demo](#)

Developed a web-based application that helps students track study activities and academic progress. Integrated IBM Granite AI for natural language processing, activity summarization, productivity pattern detection, and personalized study recommendations. Designed an interactive dashboard with charts, progress tracking, and calendar integration.

**Tech Stack:** React.js, Tailwind CSS, Node.js, Express, MongoDB, Docker, IBM Granite AI, GitHub Actions, and Vercel

## EDUCATION

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2022 - present Mathematics at **Institut Teknologi Sepuluh Nopember**

(GPA: 3.45/4.0)

## ORGANIZATION EXPERIENCE

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### **ITS Mathematics Olympiad (OMITS 17th)**

February 2024 – October 2024

*Head of Elementary Subdivision Question Maker*

- Compiled the OMITS 17th problem book using  $\text{\LaTeX}$  (Overleaf).
- Coordinated and assigned problem sets to each staff member.
- Reviewed and ensured the quality of the problems created.
- Managed the problem bank and selected problems to be used in each stage of the competition.
- Organized problems and technical requirements for the online stage through MyITS Classroom.

### **Laboratory Teaching Assistant**

September 2024 – November 2024

*Laboratory Assistant for Algorithm and Programming 1 Course*

- Instructed students on the fundamentals of Java programming based on the Algorithm and Programming 1 module.
- Prepared weekly laboratory worksheets and practical assignments using  $\text{\LaTeX}$  (Overleaf).
- Evaluated and graded student laboratory reports.
- Coordinated and managed student presentations.
- Facilitated laboratory sessions and managed resources through MyITS Classroom.

## CERTIFICATIONS

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### **1. freeCodeCamp - Responsive Web Design**

*Issued January 2024*

### **2. Great Learning - Front End Development (HTML)**

*Issued January 2024*

### **3. Great Learning - Front End Development (CSS)**

*Issued January 2024*

### **4. Dicoding Academy - Belajar Dasar Pemrograman Web**

*Issued December 2024*

### **5. Dicoding Academy - Belajar Membuat Front-End Web untuk Pemula**

*Issued January 2025*

### **6. Dicoding Academy - Belajar Dasar Pemrograman JavaScript**

*Issued January 2025*

### **7. RevoU - Intro to Software Engineering**

*Issued April 2025*

### **8. Dicoding Academy - Belajar Back-End Pemula dengan JavaScript**

*Issued June 2025*

### **9. Dicoding Academy - Architecting on AWS (Membangun Arsitektur Cloud di AWS)**

*Issued August 2025*

### **10. IBM - Code Generation and Optimization Using IBM Granite**

*Issued September 2025*

## 11. Dicoding Academy - Belajar Fundamental Back-End dengan JavaScript

*Issued September 2025*

### SKILLS

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| <b>Tools</b>       | Git, GitHub, Postman, Docker, Microsoft Office, Google Workspace, Visual Studio Code, Figma   |
| <b>Hard Skills</b> | Programming Language (JavaScript, Java, HTML5, CSS3, Python, SQL)<br>Frameworks & Libraries (Node.js, Express.js, Hapi.js, React.js, Bootstrap, Tailwind CSS)<br>Databases & Messaging (PostgreSQL, MySQL, MongoDB, Redis, RabbitMQ)<br>Authentication & Security (JWT, OAuth 2.0)<br>API Development (RESTful API design & external API integration) |
| <b>Soft Skills</b> | Problem Solving, Analytical Thinking, Team Collaboration, Time Management, Effective Communication  |
| <b>Languages</b>   | Indonesian (Native), English (Passive)  |