

ABOUT

As a fresh graduate in Computer and Informatics Engineering, I specialized in multimedia and network engineering throughout my academic journey. My coursework primarily centered around web development and embedded systems. Additionally, I delved into various areas, including computer network development, system security, Android app development, mechanical design, and PCB design. My dedication to these fields led to me being appointed as a mentor at the Computer Student Club. Furthermore, I'm proud to have secured victory in two national competitions and to have authored three scientific papers, which contributed to the fields of Web Development and IoT.

PROFESSIONAL EXPERIENCE

Research Assistant

02/2021 - 08/2023

I served as a Research Assistant at Jakarta State Polytechnic, where I played pivotal roles in various facets of research, including comprehensive literature reviews, system architecture design, system development, and successfully securing funding amounting to approximately IDR 100,000,000 (\$6,500).

- In the study of smart door locks, it achieved a notable 38.4% reduction in authentication time for users seeking room access.
- In the study of smart door locks, it effectively eliminated downtime resulting from internet connectivity issues by implementing Advanced Message Queue Protocol for the data synchronization process.
- In the study of smart irrigation system, achieved a remarkable 97.5% reduction in operational costs by transitioning from the original real-time data transmission method, which relied on GSM, to a radio communication-based approach.
- In the study of smart irrigation system, invented artificial intelligence systems to autonomously manage floodgates, ensuring precise water level control in floodgate operations.

IoT and Full Stack Developer at PT Konekthing Benda Pintar

08/2022 - 01/2023

PT Konekthing Benda Pintar is a trailblazer in the realm of IoT in Indonesia, with a strong emphasis on automation systems, the development of M2M communication software, and advanced data analysis solutions.

- Room Access Management Project: Spearheaded efforts in the Room Access Management Project.
- Backend Service Development: Designed and constructed a robust backend service for user card authentication, incorporating secure two-step authentication protocols for room access, etc.
- User Flow Design: Developed comprehensive user flows to ensure an intuitive and seamless user experience.
- UI/UX Design: Collaborated with the UI/UX design team to provide insights and suggestions for an aesthetically pleasing and user-friendly interface.
- Frontend System Development: Constructed the frontend system using HTML, CSS, and JavaScript to deliver a responsive and interactive user interface.

PROJECTS & ACHIEVEMENTS

Smart Door System

04/2022 - 08/2023

The "Smart Door System" is a sophisticated room management solution designed for access control and room usage monitoring. It comprises IoT hardware components seamlessly integrated with cutting-edge cloud services to deliver comprehensive functionality and efficiency. [↗](#)

- Technology Research: Conducted an in-depth study of literature and technology options to identify the most suitable solutions for the project.
- Software Development: Spearheaded the end-to-end development of a central cloud service responsible for aggregating data from IoT devices. Leveraged Express.js, PostgreSQL, AMQP, and Prisma to craft the system's architecture, and prioritized data security through the implementation of JWT and bcrypt encryption protocols.
- Effectively resolved connectivity challenges within the D2C version through the implementation of a cutting-edge Raspberry Pi3-based Gateway. This Gateway, equipped with a 7" LCD display, harnessed the power of Python, Modern TkInter, SQLite, Software Serial, and Pika (AMQP) for robust local authentication data management. Seamlessly integrating with cloud services, the system ensured secure, real-time data synchronization via AMQP, guaranteeing data delivery and integrity. This synchronization process was facilitated by the cloud service using RabbitMQ to ensure seamless data flow and reliability

Body Monitoring System

02/2023 - 08/2023

The Body Monitoring System is an integrated IoT and cloud-based solution designed to alert users when they spend excessive time in front of a computer or adopt unhealthy postures. It optimizes work duration by considering ambient light, monitor proximity, and body posture, promoting healthier work habits.

- **Cloud System Development:** Collaborated in the development of a robust cloud system utilizing Express.js, Prisma ORM, PostgreSQL, HTML, CSS, and JavaScript, ensuring efficient data management and user-friendly interfaces.
- **Real-Time Communication:** Enabled seamless real-time communication within the system by implementing WebSocket technology, fostering instant data exchange and enhancing user experience.

Bus Tracking System

06/2023 - 08/2023

A Bus Tracking System is a specialized technology that enables real-time tracking and monitoring of school buses. This system is designed to provide parents and school authorities with the ability to determine the exact location of a school bus based on the National Student Identification Number (NISN) of a child.

- **Technology Stack:** Invented with Express.js, React.js, Prisma ORM, PostgreSQL, and implemented long polling for real-time bus location.
- **Integration with Telkom IoT Platform:** Streamlined integration with the Telkom IoT Platform, enabling real-time tracking of both bus location and student presence on board. This integration not only bolstered operational efficiency but also optimized cost-effectiveness. The system efficiently retrieved and processed IoT device data through MQTT, enhancing data collection capabilities and supporting real-time monitoring.

Smart Medicine System

02/2023 - 08/2023

The "Smart Medicine System" is an innovative ecosystem that combines IoT devices and cloud services to enhance medication management. This system offers the following functionalities.

- **Medication Scheduling:** Developed an advanced cloud service with the capability to generate personalized medication schedules for users, complete with dosage reminders delivered through push notifications and the WhatsApp API. This achievement was made possible through the implementation of a cron job built in Node.js, ensuring timely and effective medication adherence support.
- **Inventory Monitoring:** Tracks medication stock levels and generates alerts when supplies are running low, ensuring timely restocking.
- **Technology Stack:** All system functionalities were efficiently implemented on a cloud service built with Express.js. Real-time data transmission was achieved using MQTT, while WebSocket technology was leveraged to seamlessly stream real-time information to end users.

Head of Software Development Division

12/2020 - 12/2021

The Computer Science Club (CSC) is a campus-based nonprofit organization with a rich history dating back to 2011, with a primary mission to develop human resources in the field of computer science.

- **Curriculum Design:** Developed a comprehensive curriculum for teaching basic Python programming, ensuring it covered essential concepts and practical applications.
- **Regular Meetings:** Conducted weekly meetings to facilitate collaboration, address questions, and provide guidance to participants throughout the program.
- **Website Development:** Designed and launched an organizational website to streamline participant registration and enhance program visibility, simplifying the acceptance process for new members.

Bronze Medal in Agriculture Innovation Technology

10/2021

Bronze medal in the Agriculture Innovation Technology in the Internet Of Thing agriculture innovation category with the topic of smart irrigation system based on artificial intelligence, Indonesia.

Bronze Medal in Kompetisi Mahasiswa Informatika Politeknik Nasional

06/2021

Bronze medal in the Kompetisi Mahasiswa Informatika Politeknik Nasional in the Internet Of Thing category with the topic of radio communication-based intelligent irrigation systems, Indonesia.

EDUCATION

Politeknik Negeri Jakarta, B. Applied Informatics and Computer

08/2019 - 10/2023

Current GPA : 3.78 of 4.0

TECHNICAL SKILLS

Language : Javascript, Python, C/C++, Php, Go, Java

Technology : Express.js, Django, PostgreSQL, MySql, Mongo, NginX, RabbitMq, Postman, Ubuntu, RaspberyOs