Contact

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www.linkedin.com/in/satriabw (LinkedIn)

Top Skills

Transformer

Rust (Programming Language)

OpenCV

Certifications

EF SET English Certificate 85/100 (C2 Proficient)

Linear Algebra for Machine Learning and Data Science

Introduction to Data Engineering

Honors-Awards

3rd Position in Mobile Application Development Competition, Sisfotime 2016

2nd place in Application Development Competition. Techporia, Palembang 2017

Satria Wicaksono

Software Engineer & Research @ IMOB UHasselt

Belgium

Summary

I enjoy coding, solving problems and building software. I have multiple years experience in software development, building products across different domains, from e-commerce to fintech. I also hold a Master's in Data Science, where I focused on applying deep learning to spatio-temporal data.

Right now, I work as a research software developer, building vision-based systems to understand traffic violations. My current focus is turning computer vision research into usable products. This includes working with camera calibration, vision language models, and the whole pipeline needed to make these systems actually useful for customers.

Experience

IMOB

Research Software Engineer

January 2025 - Present (1 year 1 month)

Hasselt, Flemish Region, Belgium

Improving road safety with deep-learning–based traffic intelligence systems. Key contributions:

• Designed and deployed real-time video analytics pipelines (detection, tracking, trajectory, speed estimation) running at 44 FPS on edge hardware, enabling live violation monitoring at city scale.

• Built and trained time-series forecasting models (TimesNet, TCN) for parking-occupancy prediction, reducing forecasting error by 18–25% compared to baseline statistical models.

• Implemented an automatic monocular-camera calibration method for traffic scenes, improving geometric accuracy by 20% over the prior state-of-the-art and increasing reliability of downstream BEV analytics.

Université libre de Bruxelles
Msc Thesis
March 2024 - September 2024 (7 months)
Brussels Metropolitan Area

Worked on a dataset from an electric bus fleet and built the full pipeline needed to turn messy operational data into something usable for ML. This included cleaning low-frequency GPS traces, reconstructing energy signals that came as integer cumulative counters, and merging external sources like weather, elevation, and road geometry. The project focused heavily on the practical side of ML with real-world trajectory data.

Key results:
- Processed and cleaned ~200k+ records of AVL and energy logs.
- Used HMM map-matching to fix noisy 30s GPS traces.
- Trained baseline models and an LSTM, reaching ~0.82 R^2 at trip level.

MobilityDB
Software Engineer Internship
July 2023 - August 2023 (2 months)
Brussels, Brussels Region, Belgium

Developed proof of concept to implement temporal datatypes and functions from MobilityDB to the Java Spark environment. Utilized internal library to connect and access MobilityDB function from C to the Java environment. Designed and implemented a Java library which then tested with the AIS dataset to run query in Spark environment. Managed to implement the proof of concept within the 6 weeks of internship.

https://github.com/MobilityDB/MobilitySpark

OY! Indonesia
Software Engineer
June 2020 - July 2022 (2 years 2 months)
Jakarta Metropolitan Area

- Maintained and developed OY! Indonesia business to business (B2B) system.

- Implemented user registration feature for KYB purposes in OY! business portal. Improved KYB processing time to 3x faster by implementing internal tools for reviewing and accepting user registration.

- Developed forgot password feature. Implemented both backend and frontend for this project. Designed and integrated the flow from requesting forgot password link, validating token to updating password for users.

- Built a system to integrate the ministry of home affairs payroll system with 26 regional development banks.
Opened direct integration channel with regional development banks. Ultimately this project resulted in OY! direct integration with one of the banks, reducing disbursement cost and improved reliability in disbursement process.

- Designed and implemented hold disbursement feature during bank maintenance hours. Allowed OY! to process money disbursement almost without downtime, up to 24 hours a day. Processed about 10% of total disbursement transactions (~30k transactions per month).

- Led a team of three to develop open banking API for retrieving bank account statement. Worked tightly with product manager, product designer and engineering manager to align project goals and milestones. Managed to release the product within the timeline with the given resources.

STOQO
1 year 4 months

Software Engineer
May 2019 - April 2020 (1 year)
Jakarta Metropolitan Area

- Worked tightly with product manager, product designers and other engineers to build maintainable and fast solutions for STOQO warehouse management system; Used Amazon SQS, Python, PostgreSQL and Django.

- Designed and implemented an order forecasting system to improve inventory planning process; Improved inventory planning process and saved about 10% time used for manual inventory planning by implementing this feature.

- Developed inventory return system from scratch by synchronizing data form our delivery system and warehouse system. Potentially saved millions of rupiahs from items lost by improving data reliability and transparency in this project.

Software Engineer
January 2019 - May 2019 (5 months)
Jakarta Metropolitan Area

- Designed and built API to support warehouse management systems; used Python, Django REST Framework and SQS.

- Maintained data consistency between two applications by implementing a database synchronization system.

- Built out a fresh product inventory processing system to improve warehouse inventory tracking and expedite inventory processing on the warehouse. Reduced human error in inventory tracking by 50%.

Tokopedia
Software Engineer
June 2018 - August 2018 (3 months)
Jakarta Metropolitan Area

- Maintained and improved payment system; used Golang, NSQ, gRPC and Javascript.
- Developed a refund module for virtual credit card payment based on Golang and gRPC.
- Reduced downtime on the virtual account based payment system by implementing a gateway relay system.
- Improved security by implementing OTP authentication on the credit card payment system.

Bukalapak
Software Engineer
January 2018 - March 2018 (3 months)
Jakarta Metropolitan Area

- Designed and built API for image annotation services; used Cassandra, Python, Redis and Kafka.
- implemented a system to switch easily between Cassandra and Redis.
- Reduced response time for image annotation API call and save storage usage by implementing an automatic caching system.

Ruangguru
Back End Developer
June 2017 - August 2017 (3 months)
Jakarta Metropolitan Area

- Documented the image storage system and maintained image API
- Documented each endpoint on the image storage system

- Added minor functionality on the image storage system and ensured its quality by using test driven development as a standard.

Education

Università degli Studi di Padova

Master of Data Science · (October 2023)

Universitat Politècnica de Catalunya

Master's degree, Big Data Management and Analytics · (September 2022)

Université libre de Bruxelles

Master's degree, Big Data Management and Analytics · (September 2022)

University of Indonesia

Bachelor's degree, Computer Science · (2015)