

# Hayyu Ilham Wicaksono

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## SUMMARY

Experienced as a Data Scientist and Software Developer, particularly in Mobile app development, coupled with a robust academic background in analytical modeling and programming. I strive to bring high-quality business intelligence solutions to businesses and the education sector, seeking higher efficiency. With expertise in statistical algorithms through to machine learning techniques, particularly in the areas of natural language processing.

## EDUCATION

**Master of Computer Science** | *Gadjah Mada University* | **GPA – 3.77/4** **Oct 2023**

Relevant Coursework: Data Science, Math for Data Science, Comp. Intelligence and Machine Learning, Semantic Search and Information Retrieval, Artificial Intelligence, Big Data Analytics, and Software Engineering

Awards: Awarded best model prototype startup in aquaculture tech competition (Hack A Farm 2021)

**Bachelor of Informatics** | *Islamic University of Indonesia* | **GPA – 3.74/4** **Jan 2020**

Relevant Coursework: Design Thinking, Programming and Data Structure, Intelligence and Decision Support System, Information Security and Digital Forensics, and Emerging Tech. in Computer and Security

## SKILLS

- **Development:** Python, C++, Flutter, SQL,
- **Frameworks and Libraries:** NumPy, pandas, matplotlib, scikit-learn, streamlit, NLTK, OpenCV, SpaCy
- **Cloud and Engineering:** Elasticsearch, BigQuery, Docker
- **Databases:** MySQL, SQLite, Firebase
- **Analytic and Visualization tools:** Tableau, Octoparse, Open Refine, Orange, Knime
- **Others:** Communicative, Teamworking ability, and Leadership.

## EXPERIENCE

**Data Scientist** | PT Fortech Indotama **Jul 2024 – Now**

- Responsible for implementing AI-based systems focused on sentiment analysis and social media monitoring, including buzzer detection, for enhancing data analytics capabilities for governmental.
- Developed data virtualization solutions for seamless data integration.
- Served as a mentor, providing guidance and support through comprehensive training and workshops on data strategic for government institutions such as Kejaksaan RI, National Agency for Disaster Countermeasure, and Ministry of Investment.
- Assisted in capacity-building initiatives by developing practical skills in data analytics for large-scale governmental and public sector applications.

**Research Assistant, Data Scientist** | *Gadjah Mada University* **Mar 2022 – Mei 2024**

Focus areas: Natural Language Processing (NLP), Machine learning (ML), Deep Learning, Artificial Intelligence (AI) and Data visualization.

Managed team and collaborated with 3 institutions (Gadjah Mada University, Universitas Terbuka, and University of Indonesia) across different departments or organizations to implement the system to handle problems about complex data analytics, optimization systems, and predict model with NLP concept. The Project Research solved and responsibilities include:

- Automation of Essay System for Scoring Essay Assignments in UT
  - Managed the student answer of more than 9000 unstructured data each year, to help each lecturer read the answers from students in different formats. Led redesign and normalization of text in a single system.
  - Prototyped and developed an automated scoring essay model to increase the efficiency of the lecturer in grading many varieties of essay answers. Implemented with machine learning, deep learning, and artificial intelligence method.
  - Deploy streamlit webapp to visualize results calculate essay scoring and CRUD data for students and lecturer. Saving time and easy use by the lecturer to view answers and prediction scores from students.
  - Successfully obtaining funding for further development from Kemristekdikti in the following year.
- Information Retrieval for Early Detection of Disease using Semantic Similarity for Medicine Department
  - Designed and optimized a data augmentation model to diagnose a disease by semantic similarity using retrieval principles. Led to a 20% increase accuracy of the early detection of disease system.
  - Develop a recommendation or simple information retrieval system with questions about similar symptoms in patients to help with early diagnosis of a disease.
- Aspect Based Sentiment Analysis Optimization using VADER and SMOTE for User Reviews
  - Designed and optimized sentiment analysis methods using machine learning with sentiment segmentation and oversampling imbalance. Led to an 8.9% increase accuracy from the previous methods.
  - Successfully helping the developer easily analysed sentiment complex data reviews in mobile game competitors to increase the quality of the game from the player's point of view. Developed a model to obtain specific sentiment to each aspect quality of the game.

**Mobile Developer | Gadjah Mada University****Aug 2021 – Dec 2021**

- Designed and developed the remote digital control mobile app of the GeNose C19 production monitoring system from PT.YTPI to migrate from the web app. It helped integrate and saved time for follow-up for multiple divisions.
- Analyzed system performance to control each feature used by the user.

**Mobile Developer | PT Bismadata Karya Gemilang****Mar 2020 – Feb 2021**

Ngebis is an online local bus transportation booking platform for accommodations in each city. Its accommodation to control the position and waiting for the bus arrival time, for convenience and certainty customers.

- Managed a team of mobile developers.
- Prototyped and developed the Mobile app using Flutter for Android & IOS. Successfully obtained good feedback and more than 1,000 users downloaded the app in a month.
- Handle, normalize, integration data users for customers and Mitra PO bus.
- Analyzed analytics system performance and measured its impact on users.

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**VOLUNTEERS****CRAFT – State University of Yogyakarta (Speaker in Webinar about Data Analysis with Python).****Oct 2023****Data Science Talk & Workshop Series – Center of Data Science UII (Committee and Data science Instructor).****Nov 2019**

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**SCHOLARSHIP & CERTIFICATIONS****NVIDIA Deep Learning Institute****Oct 2021**

- Accelerated End-to-End Data Science Workflows.
- Fundamentals of Accelerated Computing with CUDA Python.
- Improved Deep Learning Methodology.

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**PUBLICATIONS**

- Wicaksono, Hayyu Ilham, et al. " An Online Essay Scoring Model of Open University Using Naive Bayes." 5<sup>th</sup> International Conference on Data Engineering and Communication Technology (ICDECT) (2024).
- Wicaksono, Hayyu Ilham, et al. "Information Retrieval for Early Detection of Disease." Indonesian Journal of Computing and Cybernetics Systems (IJCCS). Vol 17. No 1. (2023).
- Wicaksono, Hayyu Ilham. "Internet Quality Measurement of Mobile Broadband Access." AUTOMATA. Vol 1. No 1 (2020).