

## Bernardo Nandanar Sunia

Semarang, Indonesia | Phone: +62 89520501678  
suniabernardo@gmail.com | linkedin.com/in/bernardo-sunia/



Highly analytical Informatics undergraduate skilled in SQL, Python, and data visualization, adept at transforming complex data into actionable insights. Proficient in requirements gathering and process modeling to optimize IT systems & ensure quality.

### EDUCATION

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#### Diponegoro University (Aug 2022 – Present)

Informatics 7<sup>th</sup> Semester - Current GPA 3.77

### WORK EXPERIENCE

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#### Class II Ambarawa Correctional Facility – Ambarawa, Indonesia

*Intern - Automated Information System Chatbot Developer (May 2025 – Jul 2025)*

- Conducted stakeholder interviews and gathered system requirements to define chatbot features, then designed and executed test cases to validate response accuracy and conversation flows.
- Analyzed user query data to optimize the chatbot's training dataset, and implemented QA measures including access control testing and performance monitoring to ensure system robustness.

#### Computer Laboratory Diponegoro University – Semarang, Indonesia

*Laboratory Teaching Assistant (Jun 2023 – Jun 2025)*

- Mentored 20+ students in programming fundamentals (Python, algorithmic logic) and advanced debugging techniques, raising average lab grades by 15%.
- Designed and implemented structured assignments and exams to evaluate IT competencies and reinforce practical skill development.

#### East Semarang District – Semarang, Indonesia

*Intern - Financial Reporting Application Developer (Dec 2024 – Feb 2025)*

- Engineered a financial reporting application using ReactJS, JavaScript, and SQL, improving data accuracy and processing efficiency for district financial operations.
- Collaborated with stakeholders to define technical requirements, develop intuitive UI components, and deliver staff training for seamless system adoption.

#### YC Electric – Semarang, Indonesia

*Part Time - Assistant Manager & acting as Supply Chain Assistant (Jan 2022 – Dec 2024)*

- Optimized inventory management by implementing efficient tracking systems, analyzing sales data, and compiling comprehensive monthly financial reports, resulting in significant profitability improvements.
- Streamlined supply chain operations by coordinating with suppliers, managing logistics, and ensuring timely delivery of products, enhancing operational efficiency and reducing costs.

*Part Time - Creative Designer – Visual Marketing and Promotional Content (Jan 2022 – Dec 2024)*

- Conceptualized and executed over 30 posters and promotional videos using Adobe Photoshop, and Illustrator, consistently achieving exceptional client satisfaction and positive feedback.
- Boosted client engagement by designing targeted promotional materials and collaborating on marketing strategies, resulting in increased brand awareness and visibility.

### PROJECT EXPERIENCE

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#### Twitter Information Diffusion and Sentiment Analysis (Apr 2025 – Jun 2025)

*Technologies: Python, Jupyter Notebook, Tweepy, Pandas, NetworkX, Matplotlib, Scikit-learn*

- Developed an end-to-end Twitter data analysis pipeline—scraped tweets via Twitter API, conducted exploratory data analysis (EDA), and implemented robust data cleaning techniques to ensure high-quality datasets for further analysis.
- Performed advanced information diffusion analysis using network graphs to visualize and quantify how information spreads across user networks, identifying influential nodes and community clusters.
- Extracted actionable insights through sentiment analysis and data visualization, enabling a deeper understanding of public opinion dynamics and information propagation patterns on social platforms.

## Advanced Information Retrieval System Using ML & Deep Learning (Aug 2024 – Dec 2024)

*Technologies: Python, Jupyter Notebook, Streamlit, Pandas, NumPy, mBERT, PyTorch, Matplotlib*

- Architected a cutting-edge multilingual neural IR system by fine-tuning mBERT on a custom Indonesian–English corpus within a scalable Python pipeline (Pandas, NumPy) to clean, normalize, tokenize, and embed texts.
- Powered sub-second semantic search with Hugging Face Transformers and PyTorch-generated dense embeddings, indexed via FAISS, and validated significant gains over BM25 baselines using MRR, Precision@K, and Recall@K metrics.
- Delivered an interactive Streamlit demo featuring real-time semantic queries and dynamic embedding-cluster and similarity-heatmap visualizations (Matplotlib, Plotly).

## Custom Search Engine Using VSM & LSI (Feb 2024 – Aug 2024)

*Technologies: Python, Jupyter Notebook, Streamlit, Pandas, NumPy, Sastrawi, NLTK, scikit-learn, Matplotlib, Plotly*

- Engineered a robust data-processing pipeline in Python, leveraging Pandas and NumPy within Jupyter Notebook, and applied Indonesian-language NLP (Sastrawi, NLTK/spaCy) to normalize, tokenize, and stem corpus texts.
- Built advanced IR models with scikit-learn by implementing TF/TF-IDF weighting, cosine-similarity ranking, and LSI via Truncated SVD and wrapped them in a polished Streamlit interface for real-time, interactive search demos.
- Crafted insightful visualizations of topics and similarity scores using Matplotlib/Seaborn; enforced code quality and collaboration through Git/GitHub; and enabled reproducible, containerized deployment with Docker.

## CERTIFICATES

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- Intellectual Property Certificate – Chatbot by Republic of Indonesia Ministry of Law (2025)
- PyTorch and Generative AI by Avalon AI (2024)
- Database Programming with SQL by Oracle Academy (2024)
- Java Programming by Oracle Academy (2024)
- Cloud Computing by Alibaba Cloud (2024)
- Bootcamp in Data Analysis by Diponegoro University (2023)

## SKILLS

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**Language:** English, *CEFR 488*

### Others:

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| • Creative problem solving and critical thinking | • Python, machine learning, analytical thinking |
| • Public speaking and people management          | • Market and data analysis                      |
| • Strategic planning and time management         | • Qualitative and quantitative research         |
| • Project management and leadership              | • Effective communication and collaboration     |

## PROJECT

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**Link:** <https://bit.ly/bernardo-project>

## PORTFOLIO

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**Link:** [https://bit.ly/bernardo-my\\_portfolio](https://bit.ly/bernardo-my_portfolio)