

Daniel Matias Suryadi Putra

Arnhem, Netherlands

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Zoekjaar Ready

Professional Experience

Project Lead Data Scientist – BigBridge Nijmegen, NL (08/2024 – 12/2024)

Thesis Internship

- Led and developed **BigBridge's first recommendation system** for e-commerce, primarily using **hybrid filtering** alongside clustering, content-based, and collaborative-based methods for better capturing user intent to personalize user experiences and increase engagement (*research involves data cleaning, preprocessing, feature engineering, exploratory data analysis, clustering (k-means), collaborative filtering (SVD), Dimensionality Reduction (PCA)*)
- Enhanced search accuracy and relevance through an AI driven **content-based search** pipeline with **AI Vector** and **Fuzzy Search**, optimized to deliver accurate results even with **minimal search queries**, complementing the overall recommendation system
- Built a **K-means Clustering** model for Bigbridge's client to segment customers by purchasing behaviour, using **Silhouette methods** for optimal clusters, targeting recommendations for each group of customers.

President – PPI Nijmegen

Nijmegen, NL (09/2023 – 09/2024)

- Served as spokesperson and **Chairman of the Indonesian Students Association in Nijmegen**, leading a community of **200+ members**
- A **communication bridge** between the Embassy of the Republic of Indonesia in the Netherlands and the Indonesian student community
- Established partnerships with other PPI chapters across Europe to exchange ideas, share resources, and co-host large-scale events

Big Data Teaching Assistant – Radboud University

Nijmegen, NL (01/2024 – 07/2024)

- Mentored students in big data analytics, focusing on **Apache Hadoop** and **Spark frameworks**, covering key techniques such as **MapReduce**, streaming data analysis, and **PCA** for dimensionality reduction
- Delivered Practical lab sessions on optimization techniques for neural network training such as stochastic gradient descent, parallelism, and layer pipelining, highlighting tools like **RDDs** and structured streaming.
- Facilitated understanding of advanced analytics methods, including graph processing with **GraphX**, application of **PageRank** algorithms for network analysis, and **SVD** for insightful data compression and feature extraction.

Software Engineer – GipHouse

Nijmegen, NL (01/2024 – 06/2024)

Contract

- Designed and implemented Edufort Educational Privacy Portal, developing a cybersecurity and privacy web application utilizing **PHP**, **Symfony** and **Doctrine**. **Client successfully deployed the application without any issues**
- Managed routine database updates, conducted Database and Application testing and developed Symfony commands for automation

Education

RADBOUD UNIVERSITY | Nijmegen, Netherlands

BSc, Computing Science, Specialization in Data Science and Cybersecurity, Minor in Business Administration (07/2025)

- Relevant Courses:** Data Mining and Machine Learning, Big Data, Algorithm and DataStructure, Calculus and Probability Theory, Information Modelling and Database, Research and Development, Software Engineering, Object Oriented Programming
- Certificate:** Deep Learning A-Z, React NextJS and NestJS Advanced, Rust Crash Course, NLP with Python

Projects

E-Shopping Recommendation System – Thesis Project | Python, Spacy, K-Means, Hybrid Filtering, NLP (12/2024)

- Implemented BigBridge's first ever recommendation system using **clustering (Silhouette Score)**, **collaborative filtering (RMSE, MAE)**, **content filtering**, and **hybrid models** to tackle challenges like **cold starts** and **data sparsity**
- Enhanced recommendation accuracy by incorporating NLP techniques (**TF-IDF**, **cosine similarity**) for content-based recommendations, and evaluated using **Precision (0.59)**, **Recall (0.96)**, and **NDCG (0.74)**, leveraging custom ground truth through **data augmentation** to boost user engagement.

E-commerce Image Search Recognition | Python (LangChain, ChromaDB, OpenAI CLIP), PyTorch, React & React Native, FastAPI (11/2024)

- Developed and optimized an **end-to-end search-by-image system**, integrating **LangChain** and **ChromaDB** with **OpenAI's CLIP** embeddings to deliver accurate and scalable e-commerce product search and recommendations
- Spearheaded the design of **advanced similarity computation pipelines**, enabling real-time visual search and recommendation functionalities
- Delivered a full-stack e-commerce image search platform with **React (web)**, **React Native (mobile with camera-based search)**, and **FastAPI backend**, showcasing expertise in full-stack development, AI-driven systems, and deep learning integration.

Job Recommendation System using BERT and HNSW Algorithm | Python, Pytorch, BERT, HNSWlib, Streamlit (10/2024)

- Developed an end-to-end content-based job recommendation system using **BERT** embeddings to match user queries with relevant job postings
- Implemented an HNSW algorithm for efficient nearest neighbour search (**ANN**), enabling quick retrieval of similar jobs from a large dataset

Car Counting and Tracking System using YOLO and OpenCV | Python, Pytorch, OpenCV, YOLOv8, SORT (09/2024)

- Developed a real-time car counting system using **YOLOv8** for object detection and **OpenCV** for video processing, accurately distinguishing cars from vans and trucks
- Integrated **SORT** algorithm to track and count only cars, ensures precise vehicle monitoring across multiple video frames, even in dense traffic

Hand Detection Balloon Pop Game using OpenCV | Python, OpenCV, Pygame, CvZone (09/2024)

- Developed a real-time interactive balloon pop game with **CvZone** hand detection for precise interaction using **OpenCV** and **Pygame**
- Achieved 90% hand detection accuracy** over 500 frames, enhancing index finger responsiveness with in-game objects

Tomato Disease Detection Using Deep Learning | Python, TensorFlow, Keras, React, FastAPI, GCP, Docker (07/2024)

- Executed an end-to-end pipeline for developing a **Convolutional Neural Network (CNN)** model that classifies tomato leaf diseases, achieving **97.65% accuracy** and a **loss of 0.0718**
- Integrated the CNN model into a **React** frontend and **FastAPI** backend to provide real-time disease detection, deployed on **GCP** to help farmers prevent losses from crop diseases by enabling early and accurate diagnosis, ensuring high reliability for agricultural professionals

Auto-Gippity Agent | Rust, OpenAI API, Actix Web (06/2024)

- Developed an autonomous GPT agent in **Rust** that writes, tests, and rewrites code, which **successfully build a fully functional application**
- Developed and tested a web server template using Actix Web, demonstrating Auto-Gippity's practical application in real-world tasks

Big Data Analysis of Web Content Patterns | Scala, Hadoop, Spark (06/2023)

- Parsing and analyzing the frequency of words in the HTML body of a major retail website, employing **Apache Spark** and **Scala** for processing large datasets, tokenization, and word count aggregation.
- Utilized Jsoup for HTML content extraction and **HDFS** for data storage, achieving insightful results into content trends and patterns

Enhanced Diabetes Classification Using Machine Learning | Python, PySpark (01/2023)

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- Developed a ML model for the accurate classification of diabetes using **Naive Bayes** and **K-Nearest Neighbours**, processing clinical data to improve diagnostic accuracy.
- **Achieved a model accuracy of 75.5% with a maximum AUC score of 0.822**, showcasing the model's robustness in clinical data analysis and prediction within healthcare AI applications.

Technical Skills

Programming Languages: Python (numpy, pandas, matplotlib, plotly, seaborn, NLTK, etc), Java, Scala, SQL, C/C++

Data Science & Machine Learning: Hadoop, Spark, PCA, TensorFlow, Keras, Pytorch, Scikit-learn, OpenCV

Web Development: HTML/CSS/Javascript, React.js, Next.js, Node.js, PHP, Symfony, FastAPI, Firebase, GCP, Docker, Figma

Interest & Others

- **Language Skills:** Native Bahasa Indonesia speaker, Professional Proficiency in English, Basic in Mandarin, Basic in Dutch
- **Running:** Rotterdam ¼ Marathon 2022, Geneva ¼ Marathon 2024
- **Web Developer (Freelance):** Developed customer website for business needs, including recommendation platform and a clothing brand site