Toby Purbojo

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| 📍 Debrecen, Hungary

Education

MSc in Data Science — 2025 – Present
University of Debrecen — Hungary
- **Current Grade**: 5.00 / 5.00
- **Coursework**: ML basics, Multivariate Statistics, and Cloud Computing.

BSc in Mathematics — 2020 – 2024
Parahyangan Catholic University — Indonesia
- **Grade**: 3.57 / 4.00

Experience

Research Assistant — 2023 – 2024
Parahyangan Catholic University

- Summarized machine learning methods for mathematics student studies.
- Developed a Python algorithm using reinforcement learning concepts to automate thesis defense examiner assignments.
- Assisted in drone based image acquisition for wave simulation research and dataset generation.

Projects

Personal Website — Jan. 2026
GitHub | *Website*
- Developed a personal portfolio with Notion-synced content using a custom Python export script and scheduled VPS cron jobs for automated updates.

PDF Food Label Extraction — Nov. 2025
GitHub
- Built a PDF food label extraction system to parse allergen and nutrition data using OCR and a structured extraction pipeline.
- Implemented backend API with FastAPI and a React frontend for file upload and result visualization.

Live Sign Language Translation — June 2025
GitHub
- Built a real-time sign language translation pipeline using webcam input and pose landmark extraction.
- Trained a GRU-based sequence model on the Citizen ASL dataset (200+ gloss classes, 80% validation accuracy).
- Methods: Pose estimation + sequence modeling + LLM refinement.

Publications

Comparing preprocessing methods for pose-based sign language recognition using GRU and LSTM models
Purbojo, T., & Wijaya, A. 2025
Advance Sustainable Science, Engineering and Technology, 7(2), 02502017
DOI: https://doi.org/10.26877/sj5scb03

Recognitions

Stipendium Hungaricum Scholarship Awardee 2025 – Tempus Public Foundation.
Best Presenter Award (3rd Place) – Thesis Day, Parahyangan Catholic University.
Semifinalist – LOGIKA UI 2024 Statistics Team Competition.
Semifinalist – LOGIKA UI 2023 Statistics Team Competition.

Certifications

Azure Data Fundamentals (DP900) – Microsoft.
Deep Learning Fundamentals – NVIDIA.
International Specialist in Data Modelling (Python) – PASAS Institute.
International Specialist in Data Visualization (Tableau) – PASAS Institute.

Skills

Languages: Python, R, SQL (PostgreSQL)

Tools: Notion, GitHub, LaTeX, Tableau.

Volunteering and Organizational Experience

Chairperson   2023 – 2024
National Math Competition 2022 - Parahyangan Catholic University

- Led a 72 member organizing committee across 8 divisions for a national online mathematics competition with 300+ participants.
- Oversaw year long planning and execution, ensuring smooth coordination, timelines, and event delivery.

Training Assistant   June 2021
Yayasan Amal Bakti Ibu Indonesia

- Assisted in a training program attended by 80+ kindergarten principals.
- Guided principals in hands-on use of robotics- and coding-based STEAM educational toys.