

Muhammad Akhdan Fadhilah

Graduate Student in Computer Vision Lab., Tohoku University

✉ akhdan@vision.is.tohoku.ac.jp 🌐 akhdanfadh.github.io

EDUCATION

- Tohoku University** Fall 2023 - cont.
M.Sc. in Information Sciences (Advisors: Takayuki Okatani & Masanori Suganuma)
- Tohoku University** Fall 2019 - Spring 2023
B.Eng. in Mechanical and Aerospace Engineering *GPA: 3.42/4.00*
- Relevant Courses: Computer Vision, Machine Learning for 3D Data, Natural Language Processing, Data Science, Computer Architecture, Algorithms and Data Structures, Robotics, Control Engineering, Machine Design*

WORK EXPERIENCES

- Computer Vision Lab., Tohoku University** Jun 2021 - cont.
Student Researcher
- Research on inverse rendering algorithms, mainly Neural Radiance Field (NeRF) and Gaussian Splatting.
 - Conducted a bachelor's thesis on NeRF model segmentation using several Segment Anything Models.
- Indonesian Student Association in Sendai** Jul 2020 - Jun 2021
Data Scientist
- Analyzed, visualized, and published insightful findings using Python (pandas).
 - Managed Indonesian students' data using Excel and JotForm.
 - Developed SOP for external parties to access the database.

SELECTED PROJECTS

- SEACrowd Datahub** [↗](#) | Python, HuggingFace Nov 2023 - cont.
- Implemented 4 HuggingFace dataloaders and submitted 9 public datasets, with more in progress.
 - Actively engage in project discussions across GitHub, Discord, and monthly meetings.
- efficient-capsnet Image Classification** [↗](#) | Python, PyTorch Jan 2023
- Implemented Efficient-CapsNet (Mazzia et al., 2021) model on PyTorch from scratch.
 - Achieved 99.61% classification accuracy on MNIST dataset.
- Customized RAG Chatbot** [↗](#) (Course Project) | Python, PyTorch, LangChain Fall 2023
- Built a no-cost chatbot leveraging LangChain with open-source LLMs (Mixtral) and embeddings.
 - Automated retrieval dataset creation by dynamically scraping web content as needed.
 - Innovated LLM-based synthetic evaluation with ELO rating for document relevancy assessment.
- Car Navigation User Interface** [↗](#) (Course Project) | C, OpenGL Spring 2021
- Developed a GUI-based car navigation program in C with OpenGL, featuring Dijkstra's algorithm.
 - Received excellent feedback from instructors for exceptional project complexity and functionality.

PROFESSIONAL ACTIVITIES

- Volunteer** in NeurIPS 2021, ICLR 2022, ICML 2022, SIGGRAPH Asia 2022
- President** of Indonesian Muslim Community of Sendai Jun 2021 - Sep 2022
- Design Team Leader** for TEDxTohokuUniversity Nov 2019 - Dec 2020

HONORS & AWARDS

- Tohoku University School of Engineering Dean's Award** Mar 2025
 Award granted to students with outstanding academic achievement.
- JEES/JX Nippon Oil & Gas Indonesia International Scholarship** Oct 2023 - cont.
- Japanese Government (MEXT) Scholarship** Oct 2019 - Sep 2023

TECHNICAL SKILLS

- Languages:** Python, C, Matlab, Fortran (familiar), SQL (basics)
- Frameworks:** PyTorch, TensorFlow (familiar), OpenGL, OpenMP (basics), LangChain
- Miscellaneous:** Bash, L^AT_EX, Git