

NAFIS UL ISLAM

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EDUCATION

The University of Hong Kong

Bachelor of Engineering in Computer Science

Expected Graduation Date – June 2025

- *Relevant Coursework: Cybersecurity, Machine Learning, Database, Networking, Algorithms Design, Web Development*
- *Minor in Finance, Focus in AI and Robotics*

PROFESSIONAL EXPERIENCES

Standard Chartered Bank

Summer Intern (SME Banking)

July 2024 – August 2024

- Enhanced the client journey application for the SME Express digital platform, enhancing its intuitiveness.
- Devised comprehensive and rigorous User Acceptance Testing (UAT) for digital signature and onboarding for new clients.
- Optimized the decision tree to conduct credit risk analysis for a digital payment partnership program.
- Engineered requirements to create a financial dashboard on SME Express, enhancing relevance of multiple financial reports.
- Drafted detailed requirements and automated UAT for process digitalization with HKMA's Commercial Data Interchange.
- Updated VBA scripts communicating with internal HOGAN systems for automated document generation.

The University of Hong Kong

Student Research Assistant (Robotics)

January 2024 – May 2024

- Utilized computer vision to calibrate a robotic arm and project PointClouds to a digital twin with 98.3% projection accuracy.
- Directed the development of a ROS Python simulation to simplify inverse kinematics, improving robotic arm speed by 312%.
- Led the investigation of text to image object classification models and algorithms for robotic arm automation.

Kodify Limited

Software Engineer

June 2023 – August 2023

- Developed a web framework displaying LiDAR PointClouds and camera feeds with 97.2% accurate landslide detection.
- Created a LiDAR simulator with variable PointCloud density in Blender, allowing data gathering from simulated scenes.
- Parallelized the PointCloud processing algorithm using Linux pthreads to improve throughput to the frontend by 450%..

The University of Hong Kong

Student Research Assistant

June 2022 – August 2022

- Developed an interactive VR metaverse using C# in Unity and Blender, hosting 4,000 users during the Innoshow.
- Created a bash script to automatically compile the APKs and push the update directly to the headset upon connection.
- Designed an intuitive user interface within the VR platform, making navigation and interaction user-friendly.

PROJECTS AND EXTRACURRICULARS

ChatWhiz ([GitHub Repo](#), [Deployment](#))

- Developed RAG scripts for chunking PDFs containing my experiences and publications using Python, LLaMa LLM models.
- Enhanced data retrieval by integrating document chunks into the Chroma database, utilizing personal insights.
- Deployed a FastAPI Python server to efficiently handle queries from my website chatbot as well as logging functionalities.

Finance – Automatic Inventory Management and Reimbursement System, BREED HKU

- Implemented OpenCV and TensorFlow for automatic receipt and invoice scanning, reducing reimbursement time by 34%.
- Developed spaCy and BERT module to extract information from financial documents, reducing processing time by 56%.
- Integrated machine learning algorithms for automated approval, reducing approval decision time by 453%.
- Engineered secure MERN web app for seamless reimbursement request submission, enhancing user satisfaction to 87%.

Robotic Fish, BREED HKU ([GitHub Repo](#))

- Engineered a turning algorithm in C++ on ESP32 using the tail fin, breaking the world record for the fastest robotic fish.
- Constructed the linear transformations in ROS and python for the servo controlled fins, improving pitch efficiency by 80%.
- Engineered a communications protocol which decreased communication latency by 413% and increased range by 300%.
- Developed an energy-efficient trajectory planning system to improve the battery life by 40% on yaw stroke.

Personal Portfolio ([GitHub Repo](#), [Deployment](#))

- Developed a portfolio site using Next.JS to host personal projects, work experiences, publications and blogs.
- Used search-engine-optimization techniques on JavaScript XML, increasing website rank to #1 on Google Search.
- Deployed on Vercel for automatic updates with git integration and global CDN support, optimizing delivery speed by 31%.
- Engineered an LLM powered chatbot to answer questions about work experiences, personal projects and publications.

PUBLICATIONS

Design and Implementation of a Cost-Efficient Underwater Communication System ([Link](#))

- A research on an affordable Arduino Nano and APC220 434 MHz transceiver-based underwater communications system.
- Published on the ISAM 2023 conference hosted at Carnegie Mellon University in October 2023.

SKILLS

- Languages: Python, Java, C++, C, C#, JavaScript, TypeScript, SQL, R, Bash, ZSH
- Frameworks: React, Next.js, React-Native, MongoDB, MYSQL, Node.js, Express.js, PixHawk, Git