NAFIS UL ISLAM

nafisulislam2k2@gmail.com | https://github.com/DethCubeHax | www.nafisui.com

EDUCATION

The University of Hong Kong September 2021 – June 2025 (Expected)

Bachelor of Engineering in Computer Science

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

PROFESSIONAL EXPERIENCES

Standard Chartered Bank July 2024 – August 2024

Summer Intern (SME Banking)

- Developed the client journey application for the SME Express digital platform, increasing the monthly user count by 15.72%.
- Devised comprehensive and rigorous UAT for digital signature & onboarding, improving detection accuracy by 243%.
- Designed automated UAT for the digital payment partnership program, improving testing accuracy by 34%.
- Designed detailed requirements to create a financial dashboard on SME Express, achieving a user satisfaction rating of 83%.
- Deployed and evaluated UAT tests to Microsoft Azure DevOps for CI/CD pipeline, reducing testing time by 2433%.
- 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 January 2024 – May 2024

Student Research Assistant (Robotics)

- 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 MoveIt 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.

Kodifly Limited June 2023 – August 2023

Software Engineer

- 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 June 2022 – August 2022

Student Research Assistant

- 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

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)

- 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, Deployment)

- Developed a portfolio site using Vue.JS and Node.JS to host personal projects, work experiences, publications and blogs.
- Optimized the JavaScript to increase website rank on search engines, appearing #2 on Google Search.
- Deployed on Vercel for automatic updates with git integration and global CDN support, optimizing delivery speed by 31%.

NelsonTalks (GitHub)

- Created a blog site in Flask and SQL for hosting and discussing personal projects, allowing users to save pages and comment.
- Deployed on Amazon AWS for 3 months on a free Ubuntu Linux EC2 instance, garnering over 6,000 views cumulatively.

ParaLlama (GitHub)

- Engineered an 800% faster Llama-2 text generator in C by using Linux pthreads to parallelize matrix-vector computations.

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