

# NAFIS UL ISLAM

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## 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

*FinTech Analyst (SME Banking)*

- Developed the client journey application for the SME Express digital platform, increasing monthly user count by over 5%.
- Designed detailed requirements to create a financial dashboard on SME Express, achieving a user satisfaction rating of 80%.
- Deployed and evaluated UAT tests to Microsoft Azure DevOps for CI/CD pipeline, reducing testing time by 20 times.
- Drafted detailed requirements and automated UAT for process digitalization with HKMA's Commercial Data Interchange.
- Communicated with business users to update VBA scripts optimally 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 just under 100% accuracy.
- Directed the development of a ROS MoveIt simulation to simplify inverse kinematics, improving robot arm speed by 3 times.
- Collaborated with researchers to train edge-detection CNN models on a dataset on 25,000 pictures, achieving 96% precision.
- Led the investigation of text to image object classification models and algorithms for robotic arm automation.

### Kodify Limited

June 2023 – August 2023

*Software Engineer*

- Developed a web framework displaying LiDAR PointClouds and camera feeds with over 95% accurate landslide detection.
- Parallelized the PointCloud processing algorithm using Linux pthreads to improve throughput to the frontend by 450%.
- Optimized distributed system using caching and load balancing, improving performance by over 20%.
- Created a LiDAR simulator with variable PointCloud density in Blender, allowing data gathering from simulated scenes.

### 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.
- Communicated with users in-person real-time to create an intuitive user interface, making headset interaction user-friendly.

## PROJECTS AND EXTRACURRICULARS

### FinanceE – Automatic Inventory Management and Reimbursement System, BREED HKU

- Implemented OpenCV and TensorFlow for automatic invoice scanning, reducing reimbursement time by over 30%.
- Developed spaCy and BERT module to extract information from financial documents, reducing processing time by over 55%.
- Integrated machine learning algorithms for automated approval, reducing approval decision time by 4 times.
- Engineered secure MERN web app for seamless reimbursement request submission, enhancing user satisfaction to over 85%.

### 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 over 80%.
- Engineered a communications protocol which decreased communication latency by 4 times and increased range by 3 times.
- Developed an energy-efficient trajectory planning system to improve the battery life by just over 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 over 30%.

### NelsonTalks (GitHub)

- Developed a Flask blog with MySQL for tech projects, featuring user authentication, bookmarking, and comments.
- 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