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*

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

PROFESSIONAL EXPERIENCES

Standard Chartered Bank   July 2024 – August 2024
Summer Intern (SME Banking)
- Developed the client journey application and User Acceptance Tests (UAT) for the SME Express digital platform.
- Devised comprehensive and rigorous UAT for digital signature, digital onboarding, Customer ID & Verification.
- Drafted detailed requirements and automated UAT for process digitalization with HKMA's Commercial Data Interchange.
- Designed detailed requirements to create a financial dashboard on SME Express to enhance existing financial reports.
- Deployed and evaluated UAT tests to Microsoft Azure DevOps for CI/CD pipeline, adhering to standard scrum practices.

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 real-time digital twin of the robotic arm.
- Directed the development of a ROS MoveIt simulation to streamline development and simplify inverse kinematics.
- 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, streamlining reimbursement.
- Developed spaCy and BERT NLP module to extract information from financial documents automatically.
- Integrated machine learning algorithms for automated approval and reimbursement process optimization.
- Engineered secure React/Node.js web app for seamless reimbursement request submission and track.

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%.

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 #4 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.