

SM NAZIM UDDIN SHOIKOT

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EDUCATION

The University of Hong Kong, Hong Kong

Sep 2017 – Jun 2021

Bachelor of Engineering in Computer Science

First Class Honors GPA 3.66/4.30

- **Selected Coursework:** Data Structures and Algorithm Analysis, Machine Learning, Applied Deep Learning, Communication and Networks, Object-Oriented Programming and Java, World Wide Web Technologies

Purdue University, West Lafayette, USA

Aug 2019 – Dec 2019

Bachelor of Science in Computer Science – Exchange Program

GPA 3.74/4.00

- **Selected Coursework:** Design, Analysis, and Implementation of Algorithms (Graduate level), Operating Systems, Software Engineering, Entrepreneurship and Innovation

Mastermind English Medium School, Dhaka, Bangladesh

Jul 2014 – Jun 2016

International Advanced Levels

- **Achieved 5 A*s** in Mathematics, Physics, Chemistry, Accounting, and Law

Mastermind English Medium School, Dhaka, Bangladesh

Jul 2012 – Jun 2014

International GCSE

- **Achieved 6 A*s** in Mathematics, Physics, Chemistry, Accounting, Economics, Pure Mathematics, and **2 As** in English Language and Bengali.n

INDUSTRY EMPLOYMENT AND EXPERIENCE

Kodifly Limited

Hong Kong

Artificial Intelligence Engineer

Oct 2022 – Present

- Developed a tracking system leveraging camera and 3D LiDAR technology for real-time pedestrian and vehicle detection, including height and speed measurement (**PaddlePaddle, Ouster-SDK, Python**)
- Conducted research and testing on 3D detection models to identify the optimal solution for unique scenarios, including railway train detection and tree intrusion identification (**YOLO, CNN, RCNN, SFA3D, OpenPCDet, SFD**)
- Used **SLAM** to create 3D maps for detection, and synchronized data from multiple **cameras, LiDARs, GPS**, and **ISPS** to facilitate alert generation, risk assessment, and predictive trend analysis (**FAST-LIO, ROS**)
- Optimized efficiency for large-scale real-time systems through the integration of **ROS** for parallel processing of data, model propagation, and visualization

D-Engraver Limited

Hong Kong

Software Development Engineer

Aug 2021 – Sep 2022

- Engineered a secure payment system including subscriptions, invoices, and 3D Authentication (**Stripe**)
- Developed **object matting algorithms** using pixel-level manipulation to extract images (**Typescript**)
- Created an automated testing framework for unit and visual regression testing (**RobotJS, Typescript**)
- Integrated frontend and backend systems for internal and client use (**ReactJS, NodeJS, TypeScript**)

EWalker Management Limited

Hong Kong

Associate Consultant – Software Engineer

Jun 2019 – May 2021

- Developed and integrated security and digital forensics software to aid security analysis (**Go, ReactJS**)
- Automated vulnerabilities detection testing and report generation, reducing manual work by up to **12 hours per day**
- Spearheaded log data analysis, visualization, and parameter optimization for log data (**Elasticsearch, Kibana**)

Azeus Systems Limited

Hong Kong

Final Year Industry Project

Aug 2020 – May 2021

- Collected, cleaned, and pre-processed data to augment existing dataset while maintaining its properties (**Python**)
- Used Natural Language Processing to understand intent of users **using vector embedding similarities**
- Developed an NLP model to retrieve the relevant materials in an efficient manner (**BERT, RoBERTa, SBERT**)
- Developed web-application and linked it to backend to create a user-friendly UI for end-users (**ReactJS, Django**)

TEACHING EXPERIENCE

St. John's College, The University of Hong Kong

Hong Kong

Resident Tutor

Jul 2021 – Present

- Advised engineering undergraduate students on course selection and internship opportunities
- Reported on students' college life experience and their concerns to senior management to discuss future college direction

- Helped with admission decisions and allocation of freshmen to different floors to try and optimize their experience
- Supervised student projects such as digitalization of college library and archives records

Faculty of Engineering, The University of Hong Kong

Faculty Peer Mentor

Hong Kong

Sep 2020 – Jun 2021

- Mentored a group of 8 freshmen throughout their first of studies to help them settle into their university life
- Held regular consultations to discuss and guide their academic interests, course selection, and choice of major

Computer Science Department, The University of Hong Kong

Teaching Assistant – Computer Programming (COMP1330A, COMP1117B)

Hong Kong

Sep 2018 – Dec 2018, Jan 2020 – Jun 2020

- Mentored a group of 30 students to help them understand and implement algorithms in Python
- Aided students in programming by helping them debug their programs in Python
- Evaluated and provided feedback on tutorials and assignments

SELECTED PROJECTS

- **Artisynth:** An AI-driven content creation engine that transforms prompts into captivating art and dynamic video narratives (**ChatGPT, Speech Recognition, Text Summarization, Keyword extraction, VQGAN, StyleGAN**) (*Ongoing*)
- **DocuMind (Final Year Industry Project):** A cutting-edge semantic search engine that leverages **vector embedding similarities** and advanced **NLP techniques** to understand user intent and provide a smarter way to retrieve internal documents, delivered to **Azeus Systems Ltd** for internal use (**BERT, RoBERTa, SBERT, Python, ReactJS, Django**)
- **EyeSpy:** Smart multiclass object detection and recognition software (**Python, CNN, SVM**)
- **MovieMingle:** Movie recommendation system using memory-based collaborative filtering (**R**)
- **QuizQuest:** Application for quizzing and giving students personalized feedback (**ReactNative, Go, SQLite**)
- **Twisttler:** Microblogging social networking website (**ReactJS, NodeJS, PostgreSQL**)
- **XinuFlex:** Modified version of the light-weight operating system Xinu to satisfy more specific needs (**C, C++**)

SKILLS AND TECHNOLOGIES

- **Core:** C, C++, Go, Java, Javascript, Typescript, Python, ROS
- **Web development:** AngularJS, Bootstrap, CSS, Django, HTML, MongoDB, MySQL, NodeJS, PostgreSQL, ReactJS
- **Machine Learning:** BERT, CNN, NLP, PyTorch, SBERT, TensorFlow
- **Other:** Unix, Regex programming, Nmap, WireShark, Elasticsearch, Kibana

EXTRACURRICULAR ACTIVITIES

Lee Foundation Library Committee, St. John'S College, The University of Hong Kong

Cofounder, Head: 2018 – 2019, Core Committee Member: 2017 - Present

Hong Kong

Aug 2017 - Present

- Co-founded the library committee to organize existing books, buy new useful books, and digitalize library records
- Created budgets, secured funding from management, and allocated it for efficient operation of the committee
- Created a self-checkout and return system for books using Libib to make the library books more accessible

SJC Robotics Club, St. John'S College, The University of Hong Kong

Team Member, Software Developer

Hong Kong

June 2018 – May 2021

- Worked in a team to design and create a remote-controlled robot for the Vex Robotics World Championship
- Developed the software for controlling the movements of various parts of the robot (**C++**)

Mastermind Debating Society, Mastermind English Medium School

President: 2015 – 2016, Team Member: 2012 – 2016

Dhaka, Bangladesh

Jul 2012 – Jun 2016

- Coordinated with school management to organize the team's participation in all tournaments during my presidency, with the team winning 5 national debate trophies during that year.
- Represented the school in several national and international Model United Nations both individually and as a team

AWARDS AND ACHIEVEMENTS

- **HKSAR Government Scholarship** for academic achievement to cover 100% tuition plus living expenses (2017-2021)
- **HKU Foundation Entrance Scholarship** as a merit-based scholarship for pursuing studies at HKU (2017-2021)
- **St. Martin's Scholarship** for outstanding academic performance (2017-2021)
- **Exchange Program Scholarship** from HKU to pursue exchange studies at Purdue University (2019)
- **Dean's Honors List** from Faculty of Engineering, HKU for academic excellence (2018, 2021)
- **Pearson Edexcel High Achievers Award** for achieving Outstanding Results in A-Levels and O-Levels (2016, 2014)
- **Special Mention Award** for public speaking in Indian International Model United Nations (2016)
- **Pearson Edexcel High Achievers Award** for attaining World Highest marks in A-Level Mathematics (2015)