

# EDWARD SEAN ALEXANDER

## 3RD YEAR UNDERGRADUATE | COMPUTER SCIENCE

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## SUMMARY

A 3rd-year Computer Science student at the Chinese University of Hong Kong, Shenzhen, aiming to gain professional IT and programming experience. Actively involved in research, organisations, and created self-made projects using multiple programming languages. Excellent problem-solving abilities and a commitment to writing clean, scalable code.

## EXPERIENCE

### Student Council Division of IT Member

 09/2024-Present  Shenzhen, China

#### Perhimpunan Pelajar Indonesia Tiongkok Pusat

- Played an instrumental role in developing and fixing the “PPIT Tiongkok” website.
- Created an event calendar that links to the gallery and the events page of the website, applying HTML, CSS and JavaScript.
- Assisted in handling the backend of the website, such as the database using PostgreSQL.

### Undergraduate Research Assistant (University)

 02/2025-Present  Shenzhen, China

#### BIRD-CRITIC

- Helped on creating test cases to test LLMs for a project called BIRD-CRITIC that is related to benchmarking LLM’S capability for interactive text2SQL tasks.
- Developed 30 test cases using Python to validate SQL query generation, ensuring correctness and optimizing for time complexity. Each query was evaluated for efficiency, demonstrating high performance across all instances.

## EDUCATION

### Bachelor of Science in Computer Science

 09/2022-Present  Shenzhen, China

#### The Chinese University of Hong Kong, Shenzhen

Latest GPA: 3.78

Core Courses: Machine Learning, Operating Systems, Computer Architecture, Data Structure, Optimization, Database, NLP.

## PROJECTS

### Couples Website

- Made a world map itinerary connected with a gallery page, a time dependent diary, and a “Guess The Picture” game.
- The frontend was made using HTML, CSS, JavaScript.
- The backend was developed using NodeJS, applying RESTful APIs, PostgreSQL for database, and deployed using AWS.

### Skin Type Detector

- Currently developing a computer vision project to analyze a person's skin type and provide personalized skincare recommendations based on user prompts.
- Utilizing PyTorch for building and training deep learning models to classify skin types accurately.
- Implementing image processing techniques using Python libraries like OpenCV for preprocessing and analyzing skin images.

### Equation Calculator

- Built a TensorFlow neural network trained on the MNIST dataset, achieving 98%+ accuracy in recognizing handwritten digits and symbols for precise equation solving.
- Integrated image processing to process canvas input and dynamically solve equations through the trained model.
- Developed an interactive canvas using ReactJS for seamless user input and real-time equation solving.

### Vector Extension for QTRVSim RISC-V simulator

- Extended the QTRVSim RISC-V simulator to support RISC-V Vector Extension (RVV) instructions, including vsetvl, vadd.vv, vlw.v, and vsw.v.
- Optimized simulator performance by reducing cycle counts in vector processing, implemented matrix multiplication, and applied advanced techniques like reduction and chaining.
- Gained expertise in simulator development, vector computation, and performance optimization using C++, Qt6, and RISC-V architecture.

## SKILLS

- Programming/IT Skills: Python, JavaScript, C/C++ , Java, SQL, React, NodeJS, Data Analysis, Docker, Git.
- Additional Skills: Microsoft Office, Project Management.
- Languages: Mandarin, English, Indonesian.

## CERTIFICATION

#### AWS Certified Cloud Practitioner

Validates knowledge of AWS cloud fundamentals, including key services, security, architecture, pricing, and cloud best practices.