

# Alvis Sim

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## Education

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### University of Wollongong

Bachelor of Computer Science

Oct 2022 - Oct 2024

### Singapore Polytechnic

Diploma in Computer Engineering

April 2017 - April 2020

## Experience

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### AI (Computer Vision and Machine learning) intern

Aug 2023 - April 2024

Cynapse

- Developed CNN models to classify HDB barrier arms with 90% accuracy, reducing false positives by 20%.
- Improved police surveillance systems by building CNN models for person and object detection, increasing identification accuracy by 15% across 10,000+ images.
- Implemented Generative AI models to create 1,000+ images from text prompts, enhancing image quality by 30% through iterative model training.
- Pre-processed 50GB of image data using Python, reducing noise by 15% and improving training time by 40%.

### Software Engineer Intern

Aug 2022 - April 2023

Sanmina Corporation

- Designed and implemented PHP web applications streamlining high-server traffic resource configuration and allocation.
- Designed, developed and deployed a secure file storing web application used by over 100 people using Google Apps Scripts.
- Improved access to data rate by storing physical data automatically on a secured database for technicians to easily lookup using Google forms, Google sheets and Google App Scripts.

## Projects

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### Live auction bidding platform, BidBestie

- Led a team to develop a real-time web application using Jakarta Server Pages (JSP), CSS, and React, JavaScript for the frontend, and Java Servlets for the backend.
- Deployed the platform on AWS by provisioning an EC2 instance and integrating it with an AWS RDS-hosted MySQL database, enabling smooth handling of concurrent bids.

- Implemented WebSockets to enable real-time bidding updates, ensuring instant bid notifications and seamless communication between users during live auctions.
- Implemented web security using Cloudflare as a reverse proxy, ensuring SSL encryption and protecting the site from DDoS attacks, reducing downtime by 25%.
- Integrated the Stripe API for secure payment processing, allowing users to make bids and complete transactions directly through the platform.
- Set up CI/CD pipelines using GitLab, automating testing, building, and deployment.

### **Real Estate marketplace platform, RealtyHub**

- Developed a real estate platform using Java and Java Swing, allowing users to view, buy, sell, or rent properties.
- Integrated MySQL for managing property listings, user accounts, and real estate transactions.
- Implemented a search and filtering feature, improving property discovery for users by 35%.
- Built a real-time live chat function using WebSockets, enabling instant communication between users and real estate agents.

### **Food and activity recommender android app, TravelBud**

- Built an Android app using JavaScript and C++ that leverages the Google Maps API to get real-time location data and Google Places API for location based searches .
- Developed a collaborative filtering recommendation engine that suggests nearby food and activity locations based on the preferences of similar users and their current location to offer personalized recommendations, improving suggestion relevance by 35%..
- Optimized location-based queries using Google Places API to retrieve nearby recommendations within 2 seconds, enhancing the app's responsiveness and increasing user engagement by 30%.

### **Skills**

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**Languages:** Java, C++, React, Python, SQL, Javascript, Jakarta Server Pages, HTML, Spring Boot, Node.js

**Database Management:** MySQL, MongoDB, Hadoop, AWS RDS

**Machine Learning:** Pytorch, pandas, tensorflow, scikit learn, OpenCV

**Cloud:** AWS EC2, AWS S3, Cloudflare

**Version control:** Git, GitHub, GitLab