# Ryan Pek

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## EDUCATION

### BACHELOR OF ENGINEERING COMPUTER SCIENCE AND DESIGN

Expected Sep 2027
Relevant Activities:
Chess Club – Vice President (2024–2025)
Multi Rotor Society – Member, Drone Software Team

## LINKS

Github:// **rpeky**
LinkedIn:// **Ryan Pek**
Website:// **ryanpek.com**

## SKILLS

### SOFTWARE

Stack:
C • Python • Git
C++ • Java • ROS2

Exploring:
PostgreSQL • MySQL
HTML/CSS • JavaScript • Flask
Circuit Design • Shell/Bash Scripting
RouterOS • Openwrt

### HARDWARE & FABRICATION

3D Printing • 3D Modelling
Laser Cutting • CNC Operation
Fusion 360 • Solidworks
PC Building • Server Building

### TOOLS AND PLATFORMS

Tools:
Vim • Tmux • SSH
Docker • WireGuard
GitHub Actions (CI/ID)
Homelab Servers
(NAS/VM/Docker/Hosting)

Software Platforms:
Windows
BSD (TrueNAS core) • RouterOS
Linux (Ubuntu) • Linux (Debian)

Hardware Platforms:
Raspberry Pi • ESP32
Arduino • Mikrotik hardware

## CERTIFICATIONS

First Aid (BCLS)
UA Basic Training

## SUMMARY

Second-year undergraduate at SUTD (Singapore University of Technology and Design) passionate about software development, systems programming, and hardware integration. Proficient in C, Python, and Linux (Debian), with strong interests in computer networks and computer infrastructure hardware. In my free time I tinker with networking tools in my homelab.

## EXPERIENCE

### SAFMC 2025 | CORE DEVELOPER

December 2024 – March 2025 | Singapore

- Planned and executed drone operation controls, state machine and integration with ROS2 on MRS's custom drones.
- Redesigned and modularized legacy drone control code, improving maintainability and enabling decentralized logic..
- Implemented and tested decentralized state machine logic using Dockerized environments.

### SUTD MAPPING PROJECT – PATHFINDING | LEAD DEVELOPER

Aug 2024 – Present | Singapore

- Managed the project to ensure smooth integration between hardware and software.
- Planned and executed both software development and on-site data collection.

### REPUBLIC OF SINGAPORE AIR FORCE | AIRCREW SPECIALIST

Aug 2021 – Feb 2023 | Singapore

- Conducted in-flight operations and supported critical flight operations.
- Developed teamwork and communication skills in high-pressure environments.

## PROJECTS

### SINGAPORE BUS ROUTING PROJECT | DEVELOPER

2019 | Singapore

- Passion project that got me into pursuing further studies in software development and algorithms in University.
- Working on a custom solver for a relaxed postman tour using real-world LTA DataMall API data in order to visit them in real life.

## LEADERSHIP

### UNDERGRADUATE RESEARCH OPPORTUNITIES PROGRAMME (UROP) | RESEARCH LEAD

Aug 2024 – May 2025 | Singapore

- Self-initiated under faculty supervision.
- Lead a research project focused on data collection and pathfinding from scratch.
- Planned and executed ground work to create our own data set.

### CHESS CLUB | VICE PRESIDENT

Feb 2024 – Feb 2025 | Singapore

- Organized annual SUTD Team Blitz Championships and assisted as host and arbiter.
- Led club's participation in university-wide chess competitions.
- Oversaw events, training, and social activities to foster a competitive environment.