



# Ajay Shanker

## Student | Computer Engineer

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Highly motivated and curious Computer Engineering student, with a passion for solving complex problems and developing innovative solutions. Currently, doing a double major in Computer Engineering with Innovation and Design (CEG with iDP) from National University of Singapore (NUS) enthusiastic about developing embedded systems and software applications.

## SKILLS

Programming Languages	C, C++, Dart, Python, Verilog, HTML, CSS, JavaScript, Swift, Git, Bash, Markdown, Latex
Frameworks	ARM, Github, Flutter, ROS2, Pandoc, Docker, VueJS, Tailwind CSS, Nuxt
Microcontrollers	STM32, Raspberry Pi, ATmega, ESP32, ESP8266, PIC18
Development Tools	Neovim, Visual Studio Code, Eagles, Fusion 360, PlatformIO, Vivado, Xcode, Android Studio
Field Programmable Gate Arrays	Artix®-7-FPGA
Operating Systems	MacOS, Fedora, Ubuntu Server
Others	RISC-V, 3D Printing, IIoT, Urban Farming, Home Automation, Ethical Hacking, RFID, NFC

## EXPERIENCE

Urban Farming Design Engineer	<b>NUS Student Work Scheme</b> DEC 2022 - CURRENT <ul style="list-style-type: none"><li>Contributed to the mechanical design to ensure the hydroponics system with high modularity and maintainability</li><li>Programmed software on the electronics, apps and automation for the hydroponic prototype</li><li>Collaborated fabrication and assembly of prototype using aluminium profile and polycarbonate</li></ul> <div>Teamwork Eagles Fusion 360 Flutter Dart ESP32</div>
Project Officer	<b>Temasek Polytechnic</b> MAY 2022 - JUL 2022 <ul style="list-style-type: none"><li>Coded on STM32 embedded board</li><li>Programmed API to control DYNAMIXEL digital servo in C</li><li>Integrated Light and Versatile Graphic Library (LVGL) on ARM Microcontrollers</li></ul> <div>C C++ STM32 ARM Microcontrollers STM32CubeIDE UI</div>
Assistant	<b>Temasek Polytechnic</b> MAY 2021 - JUL 2021 <ul style="list-style-type: none"><li>Guided and facilitated students taking part in World Skills Singapore 2021 Electronics Trade.</li><li>Coordinated and evaluated exam questions and hardware on electronics trade for student examinations.</li></ul> <div>C C++ STM32 PCB Eagles</div>
Assistant Engineer	<b>AWAK Research and Development in Temasek Polytechnic</b> MAR 2019 - JUN 2019 <ul style="list-style-type: none"><li>Designed STM32 shield printed circuit board for a medical prototype device</li><li>Guided and taught students taking part in World Skills Singapore 2020 Electronics Trade</li></ul> <div>C C++ STM32 PCB Eagles</div>
Internship	<b>Defence Science and Technology Agency (DSTA)</b> OCT 2018 - JAN 2019 <ul style="list-style-type: none"><li>CAD designed, edited and 3D printed a quadcopter</li><li>Implement a User-Friendly program using Fusion 360 API which will automatically generate an optimised 3D Printable frame</li></ul> <div>Drone Python Fusion 360 3D Print API</div>

## HONORS & AWARDS

Scholarship	Engineering Scholars Programme	2021 - 2024
Award	The Lee Kuan Yew Award For Mathematics And Science	2019
Competition	WorldSkills Singapore (Won Bronze Medal for Electronics Category)	2018

## EDUCATION

Bachelor's degree	National University of Singapore, Computer Engineering with Innovation and Design (Double Major)	2021
Diploma	Temasek Polytechnic, Electrical and Electronics Engineering with Diploma Plus in Entrepreneurship	2016 - 2019



## VOLUNTEERING

<b>Organiser</b>	Youth Expedition Project (YEP): Oversea Community Project (OCP) at Sitio Manalpaac, Philippines	2018
<b>Volunteer</b>	Local Community Project: Inclusive @ MINDS at Kembangan	2017
<b>Volunteer</b>	Orange Valley Nursing Home: Service Learning	2017



## PROJECTS

**GREENCRATESG** 2022 - CURRENT

[github.com/GreenCrateSG](https://github.com/GreenCrateSG) <https://ajayshanker.netlify.app/greencratesg>

Smart automated hydroponics system that is modular for accessibility and maintainability for the community.

Fusion 360 Eagle LPKF NodeMCU Flutter Dart Swift Kolin Visual Studio Code Xcode Android Studio

**OWADIO APP** 2018 - CURRENT

[github.com/AjayShanker-geek/owadio](https://github.com/AjayShanker-geek/owadio) <https://ajayshanker.netlify.app/owadio>

Made for Singapore's Full-Time National Servicemen (NSFs) and NSmen on both iOS and Android platforms.

Flutter Dart Swift Kolin Visual Studio Code Xcode Android Studio

**COUNTDOWN++ APP** 2020 - CURRENT

[github.com/AjayShanker-geek/countdown](https://github.com/AjayShanker-geek/countdown) <https://ajayshanker.netlify.app/countdown>

CountDown++ made simple by a solo developer.

Flutter Dart Swift Kolin Visual Studio Code Xcode Android Studio

**ICLIB APP** 2019 - CURRENT

[github.com/AjayShanker-geek/icLib](https://github.com/AjayShanker-geek/icLib) <https://ajayshanker.netlify.app/icLib>

Find and View Components at your finger tips.

Flutter Dart Swift Kolin Visual Studio Code Xcode Android Studio

**SMART AQUAPONICS SYSTEM** 2018 - 2019

<https://ajayshanker.netlify.app>

Oversea Community Project (OCP) at Sitio Manalpaac, Philippines

Eagle LPKF NodeMCU



## REFERENCES

**Low Kian Mong**

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