

# NG ZHILI

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## PROFESSIONAL SUMMARY

- Highly driven and proactive engineer who is passionate about AI, data science, machine learning, robotics.
- Being an entrepreneur and engineer at heart, I seek to utilize my strong analytical and quantitative skills to solve complex tasks and problems in diverse cross-functional teams.

## EDUCATION

### National University of Singapore (NUS)

Aug 2019 – Present

- Year 3, Bachelor of Engineering (Hons) in Mechanical Engineering (Class of 2023).
- Current Cumulative Average Point (CAP): 4.71/5.0 (First Class - Honors).
- NUS Faculty of Engineering Dean's List AY2020/2021 Semester 2 (Top 5% of Cohort).
- Minor in Computer Science and specialization in Robotics.

### NUS University Scholars Programme (USP)

Aug 2019 – Present

- Awarded NUS USP Scholarship: The Jixun & Serene Scholarship AY2020/2021.
- Multidisciplinary academic programme imparting critical inquiry and problem-solving skills, admits only top 2.5% of total NUS undergraduate cohort.
- Provide mentorship to incoming freshmen under the USP Peer Mentor program.

### Jurong Junior College (JJC)

Jan 2015 – Dec 2016

- GCE A-Levels: Subject Combination PCME, Graduated with university IGP (AAB/A).
- Bestowed EAGLES, College Outstanding Leadership Award, Good Character Award.
- Nominated for Lee Hsien Loong Outstanding All-Round Achievement Award in 2017.

## WORK EXPERIENCE

### CARRO, Data Scientist Intern

May 2021 – Present

- Conducted signal pre-processing, truncation, and unsupervised classification of audio.
- Co-Lead for computer vision project and main POC with project external stakeholders.
- Scripting using Python to automate feature extraction of semantic segmentation from COCO data format to CSV in AWS SageMaker for the training of computer vision model.
- Created image viewer to visualize polygon segmentation and bounding box annotations.
- Carried out data preprocessing methods for data cleaning, transformation, augmentation.
- Mentored data analyst on machine learning techniques and best practices.

### Opporizon Global, Business Development and Research Intern

May 2020 – Jul 2020

- Assistant to CEO/Founder and supervised 4 interns as Head Intern Coordinator.
- Created content and sourced for new global business opportunities (B2B and B2C).
- Redesigned company webpage layout and quoted 100 technical data sets for clients.

### Kruger Engineering Pte Ltd, HVAC Engineer Intern

Feb 2019 – May 2019

- Applied fan engineering theory to quote over 2000 Mechanical Ventilation (MV) and Jet fans based on needs, specifications and budget requirements requested by clients.
- Conducted acoustic analysis of 200 MV fans by calculating acceptable sound tolerance levels to designate suitable sound attenuators in distinct HVAC ducting systems.
- Utilized CAD software, blueprint, and isometric drawings to perform static pressure calculations for over 500 MV fans, Fan Coil Units and Air Handling Units' systems.
- Innovated new fan selection program methods using Microsoft Excel, improved overall efficiency and productivity of engineering sales department.

### Singapore Armed Forces, ATGM Platoon Sergeant (BSC)

Jan 2017 – Nov 2018

- Led and trained a platoon of 12 soldiers to aid personal and professional development.
- Conducting and Safety Officer for physical trainings for 100 stakeholders in the company.
- Developed planning abilities and handled company and platoon administrative tasks.

## EXTRACURRICULAR ACTIVITIES

**NUS Entrepreneurship Society (NES), Deputy Director of Sponsorships** **Sep 2020 – Present**

- Network and source for sponsorships to provide financial support for NES events.
- Organize and source for renowned speakers for NES entrepreneurship webinars.
- NES Mobile Application Development Team.

**NUS RoboMasters, Mechanical Engineer** **Sep 2020 – Present**

- Representing NUS in DJI RoboMaster University Championship 2021.
- Designed and fabricated Standard Robot Chassis using SolidWorks to ensure it meets allowable stress, strain deformation requirements via finite element analysis.
- Research focused on vehicle dynamics, wheel skiing and sensitivity analysis of rollover.

**NUS Bumblebee Autonomous Systems, Mechanical Engineer** **Sep 2019 – Sep 2020**

- Designed and fabricated Hornet 5.0 Autonomous Underwater Vehicle (AUV) actuator arm & ball dropper to represent NUS in the Singapore AUV Challenge 2020 (SAUVC 2020).

**NUS University Scholars Club (USC), Ursaia House Committee (EXCO)** **Sep 2019 – Oct 2020**

- 1 out of 4 students nominated as Ursaia House committee by USP residents.
- Led and organized monthly House events for 120 year 1 to year 5 undergraduates.
- Maintained interpersonal relationships with 120 different stakeholders in the House.

**NUS USP Freshmen Orientation Program, Chief Orientation Group Leader (COGL)** **Sep 2019 – Oct 2020**

- Empowered 30 orientation group leaders to lead and integrate freshmen into USP.
- Managed logistics, manpower, administrative matters, bonding games.
- Formulated and executed house bonding games for 41 freshmen and 8 exchange students.

**JJC Interact Club, Director of Elderly Beneficiary (EXCO)** **Jan 2015 – Jul 2016**

- Conferred the Interact Award of Merit 2016.
- Planned, liaised projects, managed 15 beneficiary members and logistical resources for weekly visits to elderly day care centres and external organizations over 2 years.
- Orientation Team Facilitator for J1 Community Service Leaders Camp.

**JJC Freshmen Orientation Program, Family Head (Vice-Chairperson)** **Nov 2015 – Jan 2016**

- Confidently addressed 160 freshmen, handled administrative and interpersonal matters.
- Supervised 10 Orientation Groups and empowered 20 orientation group leaders (OGLs) to integrate 160 freshmen into college's culture and community.

## PROJECTS

**DSTA BrainHack 2021 – TIL AI Camp, Computer Vision & Audio Processing** **Jun 2021 – Present**

**Shopee Code League 2021 – Programming Contest** **Mar 2021 – Mar 2021**

**AWS Build On Singapore 2020 - Finalist Top 40 Teams (Institute Category)** **Jul 2020 – Sep 2020**

**NUS InnoVenture Case Competition 2020 - Best Pitch Award** **Jan 2020 – May 2020**

## ADDITIONAL INFORMATION

### Programming Skills

- Python | Python Telegram Bots | Python Machine Learning | MatLab | Excel Visual Basic, VBA | GCP Data Science & Machine Learning | AWS SageMaker, Lambda, Cloud Formation | OpenCV | HTML | CSS | SQL | C++.

### Technical Skills

- MS Office | CSWP Solidworks Mechanical Design | Autodesk Fusion 360 | Accounting | Arduino | Tableau.

### Non-Technical Skills

- English | Mandarin | Leadership | Project Management | Interpersonal Skills | Lifesaving 1,2,3 Awards | Kayaking 1,2 Star Awards | National Survival Swimming Award.

### Interests

- Volunteering | Travelling | Equity Investment | Table Tennis | Hiking.