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Personal Statement

Aspirations

It all started when I took up the courage to leave my hometown, Indonesia, for a scholarship opportunity in Singapore. Since then, I have the privilege to gradually discover my passion through my own initiative. As I narrow down my search, I learnt that my interest is in the design and creation of meaningful product through the startup ecosystem. Specifically, I hope to build things that can help in creating a truly wireless future. I am specializing in wireless communication and RF technology and are experienced in embedded system design through my startup internship.

Currently, I see myself as going through the same tipping point where I advance to the next stage of my life to experience and discover new opportunities in San Francisco.

Lessons from Past Internships

During my undergraduate, I have the opportunity to intern at the Acoustic Research Laboratory (ARL) and an Internet-of-Things (IoT) startup called TransferFi. While both internship provide me with difference experiences, they have taught me incredibly on how to be resourceful.

At ARL, I defined my own research problem and little did I know that I would spent my next 8 months working on the same problem. Due to the novelty nature of research, the amount of resource available both online and offline are meager. Hence, most insights need to be indirectly drawn from existing knowledge or experimental data.

Eventually, I shifted away from the research field as it felt too early for me to specialize on a topic of interest. Hence, I decided to intern at a startup company. At TransferFi, I was tasked with challenging projects and no mentor to guide me. I can understand that resources are limited in the startup settings, hence the solutions to most of my questions are mostly sourced from the web and forums. In addition to being resourceful, I have learnt how to wear multiple hats at the same time as human resource is scarce. Lastly, I honed my communication skill through liaising with our client when designing the appropriate ModbusTCP implementation in our system.

Why Me?

My internship objective is to provide a genuine value-add to your company while discovering new opportunity and honing new skills together with your company. To prove that I will be an awesome intern, please view my resume below.

Skill Sets & Proficiency

Programming	Proficient	Python
	Proficient	C
	Basic	C++
Hardware Design	Proficient	LabVIEW
	Intermediate	Verilog
	Intermediate	LTSpice Circuit design
Computer Aided Design Software	Proficient	Autodesk Eagle
	Intermediate	Autodesk Fusion 360
Simulation Software	Intermediate	MATLAB
	Proficient	Waveforms
	Proficient	LabVIEW
Data Analytic	Proficient	NumPy, SciPy and Pandas
	Intermediate	Jupyter Notebook
	Proficient	Matplotlib and Bokeh Plot
Web	Proficient	HTML
	Intermediate	CSS
Server Management & Network	Basic	Server Setup/Maintenance
	Basic	Wireless Networking
Non-technical Skills	Intermediate	Project Management
	Proficient	Customer Relation

Work Experience

Mar 2019 - Present **TransferFi Pte Ltd**

Embedded System Engineer

- FPGA implementation for digital control of phased-array antennas which result in significant increase of transmission efficiency of up to 300%.
- Nordic firmware development for Industrial IoT which dramatically reduces power consumption by 30%.
- ModbusTCP Implementation for a Programmable Logic Controller (PLC) requested by our client.

May 2018 - Feb 2019 **Acoustic Research Laboratory**

Undergraduate Researcher

- Researched on the spatial diversity of acoustic communication underwater up to 100m.

Past Projects

Mar 2019 - Present **Doppler Radar System Design**

- Built a 2.4 GHz Doppler radar transceiver to detect motion, by sourcing

components such as oscillators, mixers, and amplifiers after careful signal power analysis, obtaining accurate test results.
- Modelled the expected doppler shifts for various motions using MATLAB to verify the data, resulting in better evaluation of the obtained test results.

May 2018 - Feb 2019 **Balloon Satellite Project**
- Led a team of 4 multi-disciplinary students to design and assembly a full-fledge balloon satellite targeted at gathering atmospheric conditions, that could be remotely controlled from the ground via RF signals.
- Utilized Arduino platform and integrated various sensor components with different protocols such as Serial UART, I2C, SPI, achieving overall system control.

Scholastic Achievements and Extracurricular Activities

Aug 2014 – Dec 2016 **Scholarship**
St. Joseph Institution Merit-Based Scholarship

May 2018 **IEEE Hackathon**
Third Place – Best Hack

Dec 2014 **International Spaghetti Competition**
International First Prize Winner

Dec 2017 - Dec 2018 **School Contributions**
- Corporate Relation Director for NUS Indonesian Musical Production
- Head of Public Relation for GreenT Movement in Tembusu College

Education

Aug 2017 - Present **National University of Singapore**
Bachelor of Engineering (Honors) in Electrical Engineering,
Double Major in Innovation and Design
(Course details in Appendix A)

Aug 2014 - Dec 2016 **St. Joseph Institute International**
- International Baccalaureate (IB) Subjects: Physics (A), Chemistry (A), Math (B), Business (A+), Chinese (A+), English (A)
- Singapore-Cambridge General Certificate of Education Advanced Level: Elementary-Math (A+), Advance-Math (A)

Language Proficiency

Spoken	English – fluent; Mandarin – fluent; Bahasa Indonesia – fluent
Written	English – competent; Chinese – competent; Bahasa Indonesia - competent

APPENDIX A

Degree: Bachelor of Engineering (Honors) in Electrical Engineering, Double Major in Innovation and Design
Cumulative Average Point: 4.02 / 5.00

CLUSTER	Course Description	Grades
Wireless Communication and RF Technology	Radar Theory and Techniques	A-
	Electromagnetics for Electrical Engineers	A-
	Introduction to RF and Microwave Systems & Circuits	In-progress
	Communication Systems	In-progress
	Computer Networks	In-progress
	Integrated System Lab	In-progress
	Signals and Systems	B+
Embedded System Design	Digital Design	A
	Microcontroller Programming and Interfacing	B+
	Exploratory Satellite Design	B+
Power Electronics and Circuit Analysis	Electronic Circuits	A-
	Introduction to Electrical Energy Systems	B+
Programming	Programming Methodology	S
Engineering	Engineering Principles and Practice I	S
	Engineering Principle II	A-
Mathematics	Differential Equations for Engineering	A-
	Engineering Calculus	B
	Analytical Methods in Electrical and Computer Engineering	B+
	Quantitative Reasoning	B+
	Linear Algebra for Engineering	D+
Liberal Arts Studies	Biomedicine and Singapore Society	B+
	Discourse, Citizenship, and Society	S
	Public Persona and Self-Presentations	S
	Time and Life	B+
	Junior Seminar: Social Innovation	CS
DCP Project #		In-progress

DCP Project is a one-year project conducted under iDP(Innovation and Design Program). It is a project consisting of 4 team member (3 mechanical engineering students, and myself). The Project is named ARMS (Autonomous Robotic Monitoring System) and it focuses on designing robotic monitoring system used for monitoring ship equipment such as steering gears, diesel engines, etc.

NUS Grading Scale:

A+ & A (5.0); A- (4.5); B+ (4.0); B (3.5); B- (3.0); C+ (2.5); C (2.0); D+ (1.5); D (1.0); F (0)

S = Satisfactory; U = Unsatisfactory

CS = Completed Satisfactorily; CU = Completed Unsatisfactorily

EXE = Exempted; IC = Incomplete; IP = In Progress; W = Withdrawn