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Personal Statement

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 independently search for my passion in this vast unknown world. As I narrow down my search, I discover my interest in the design and creation of meaningful product through the startup ecosystem. Specifically, my area of expertise is in embedded system and hardware architecture design. 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 and industry in San Francisco.

Lessons Learnt from Past Internships Experiences

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 to design the appropriate ModbusTCP implementation in our system.

How Can I Contribute and why me?

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

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) reque our client.

May 2018 - Feb 2019 **Acoustic Research Laboratory**
Undergraduate Researcher
- Researched on the spatial diversity of acoustic communication underwater up to 100m.

Skill Sets & Proficiency

Computer Aided Design Software	Autodesk Eagle	Proficient
	Autodesk Fusion 360	Intermediate
Web	HTML	Proficient
	CSS	Intermediate
Simulation Software	MATLAB	Intermediate
	Waveforms	Proficient
	LabVIEW	Proficient
Programming	Python	Proficient
	C	Proficient
	C++	Basic
Server Management & Network	Server Setup/Maintenance	Basic
	Wireless Networking	Basic
Hardware Design	LabVIEW	Proficient
	Verilog	Intermediate
	LTSpice Circuit design	Intermediate
Non-technical Skills	Project Management	Intermediate
	Customer Relation	Proficient
Office Productivity	Microsoft Word, Excel, and PowerPoint	Proficient

Scholastic Achievements and Extracurricular Activities

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

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

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

Dec 2017 - Dec 2018 **School Contributions**
- Corporate Relation Director for NUS Indonesian Musical Production (NU
- 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 (B), Business (A+), Chinese (A+), English (A)
- Singapore-Cambridge General Certificate of Education Advanced L Elementary-Math (A+), Advance-Math (A)

Language Proficiency

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

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.

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

Year	Level	Course Description	Grades
Aug – Nov 2017	Year 1/Semester 1	Programming Methodology	S
		Engineering Principles and Practice I	S
		Differential Equations for Engineering	A-
		Engineering Calculus	B
		Quantitative Reasoning	B+
		Junior Seminar: Social Innovation	CS
Jan – May 2018	Year 1/Semester 2	Engineering Principle II	A-
		Digital Design	A
		Linear Algebra for Engineering	U
		Exploratory Satellite Design	B+
		Public Persona and Self-Presentations	S
		Time and Life	B+
Aug – Nov 2018	Year 2/Semester 1	Electronic Circuits	A-
		Microcontroller Programming and Interfacing	B+
		Radar Theory and Techniques	A-
		Analytical Methods in Electrical and Computer Engineering	B+
		Linear Algebra for Engineering	D+
		Discourse, Citizenship, and Society	S
Jan – May 2019	Year 2/Semester 2	Signals and Systems	B+
		Introduction to Electrical Energy Systems	B+
		Electromagnetics for Electrical Engineers	A-
		DCP Project #	IP
		Biomedicine and Singapore Society	B+
Aug – Nov 2019	Year 3/Semester 1	Integrated System Lab	In-progress
		Computer Networks	In-progress
		Communication Systems	In-progress
		Introduction to RF and Microwave Systems & Circuits	In-progress
		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

- Valuable asset as an embedded system engineer
- **How do I demonstrate that I will be an awesome Intern?**
- From past experience,

Internship Objectives

- To provide value in the hardware startup ecosystem while discovering new opportunities and industry for myself.