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Personal Statement

As an undergraduate majoring in Computer Science in the School of Computing in National University of Singapore, creating innovative systems that can enhance the quality of life for people has always been my passion and aspiration. The idea that a software system can be written out with no additional tools other than your computer, which ultimately helps to improve the work process of mundane tasks for people, has always fascinated me. Along with artificial intelligence, which is a key interest of mine, I believe that such systems can be further improved using machine learning techniques to form predictions and act upon that prediction. One such example would be the upcoming self-driving car. If such a concept were to be perfected and legalized, the time that people spend driving cars can be used instead on other more pressing issues. Furthermore, the entire public transport infrastructure may potentially shift for the better, benefitting society even more. Hence, I wish to create and develop software systems that have the ultimate goal of benefitting the mass public, with artificial intelligence integration being a bonus.

I believe that an internship will undoubtedly expose me to the industrial standard for the technical skills required for software systems. Specifically, interning in a start-up, where new ideas are constantly being explored, will not only improve my technical skills, but it will also provide me with the opportunity to learn new skills and different ways of thinking to solve the problems on hand. Furthermore, I hope to work with and be inspired by the people currently in the industry, especially with regards to the industrial application of artificial intelligence.

In May 2016, I performed an internship stint with Ecquaria Technologies, based in Singapore. Through my internship, I experienced developing a software system for a client with constantly changing requirements. I had to learn various programming languages in a short period of time in order to assist the project team with the development of the system. While tough, I embraced the challenge as it was definitely exciting to develop a system that will benefit the client in the long run. On a technical aspect, a key takeaway from this internship would be the software engineering aspect of modelling diagrams to represent the idea of the system, as well as clear and concise coding practices to facilitate easy reading of the code. On a non-technical aspect, this internship taught me the importance of effective communication in a team, especially so when individual modules are interlinked in the entire architecture of the system.

My current skillset leans very much towards software development, including mobile development, with MenuSnap (an android mobile application) being testament to that. More information regarding MenuSnap can be viewed below under additional information or in the Play Store. Furthermore, I also possess knowledge and experience of applying machine learning theory and techniques as well as artificial intelligence algorithms.

Through my years of education and an internship, I have worked on numerous projects of various disciplines, allowing me to experience working with different groups of people. Through that, I have learnt to adapt well to the working styles of other people and work efficiently and effectively with them. Aside from that, I have also learnt to plan out the timeline of a project accordingly, giving sufficient time for each phase of the project, as well as allocating some buffer time to account for any unexpected issues cropping up. In addition, I believe that my optimistic personality and collaborative attitude has been and will continue to be helpful towards creating and maintaining a conducive working environment.

With my exceptional work ethics and diverse technical skills, I believe I would be a great asset to any organization I work for. I hope to make a positive impact towards my future colleagues and most importantly, make a positive difference in the world through the organization.

Education

Aug 2015 - Present	**National University of Singapore** Bachelor of Computing (Honors) in Computer Science *(Course details in Appendix A)*	Singapore
Jan 2011 - Dec 2012	**National Junior College** Singapore-Cambridge General Certificate of Education Advanced Level	Singapore

Work Experience

May 2016 - July 2016 — **Ecquaria Technologies Pte Ltd** — Singapore

Software Engineer (Intern)

- Assisted in creating a new system to replace the current one in use by a government agency.
- Modified and tested existing data migration scripts for migrating data from the old system to the new one.
- Designed and implemented web pages for the system using the Struts 2 framework, along with JSP.
- Automated the creation of non-technical documents for the client using Visual Basic.

Scholastic Achievements/Extracurricular Activities

Aug 2015 - Present — **Scholarship** — Singapore

Singapore Government Industry Scholarship

Sep 2015 - March 2016 — **National University of Singapore Innoventure Finals** — Singapore

Finalist

Competition summary: Tackled the problem statement by DHL, which was to solve their inventory management issues. Created an android mobile application that acts as an access point to the inventory system hosted in a cloud database.

July 2011 - July 2012 — **National Junior College** — Singapore

- Logistics Officer for the Outdoor Activities Club.
- Member of the Climbing Club. Participated in several national level bouldering competitions and won 3rd place for NTU Pumpfest 2015 as an individual.

Skill Sets & Proficiency

Web	HTML, CSS, Bootstrap	Proficient
	JSP technology	Intermediate
	PHP	Basic
Database	MySQL DBMS	Proficient
	Oracle SQL DBMS	Proficient
	SQLite	Intermediate
Programming	Java	Proficient
	Android	Proficient
	Python	Intermediate
	Ruby	Basic
	C	Basic

Scripting	JavaScript	Intermediate
Markup	XML	Basic
Server Management & Network	Server Setup/Maintenance Wireless Networking	Basic Basic
Operating Systems	Linux Windows 7, 8, 8.1	Basic Basic
Multimedia	Adobe Photoshop CS6 Adobe Illustrator CS6	Intermediate Intermediate
Office Productivity	Microsoft Word, PowerPoint Microsoft Excel	Proficient Intermediate
Non-technical Skills	Project Management Teamwork and Collaboration Communication	Proficient Proficient Proficient

Language Proficiency

Spoken	English – fluent; Mandarin – fluent
Written	English – fluent; Mandarin – average

Additional Information (Projects)

MenuSnap
Android Mobile Application

Created an android mobile application for the public to use in a food establishment.

Objective of the application is to provide more information in the user's preferred language, regarding the menu item on the food establishment's menu.
This is to address a lack of information in menus, in the form of pictures or descriptions associated with the menu item or a lack of understanding of the language, leading to a customer's indecision regarding his/her order

Requires the user to take a picture of the menu and the application will use Optical Character Recognition (OCR) to "scan" the picture. This renders the individual menu items on the menu to be searchable on the mobile application.

Facial Recognition
Module Project

Created a facial recognition model in Python that 'learns' the faces of people through the online dataset Labeled Faces in the Wild.
Subsequently, when given a new picture of a person in the dataset, the model can recognize him/her, i.e. by putting a label to the person's face.

Tested various Machine Learning techniques such as Support Vector Machines, Neural Network, Decision Trees, while using 10-fold Cross Validation to check the accuracy rate.

iFridge
Hack & Roll Hackathon

Created a multi-item detection system of items in the fridge. The fridge's inventory list will be constantly updated using the system the list will be sent to a mobile phone application. The application will then suggest possible recipes given the current ingredients in the fridge.

Uses a Convolutional Neural Network that is trained on images of groceries. The images are taken manually and rotated and cropped to increase the size of the dataset, ultimately improving the accuracy of the model used.

APPENDIX A

Degree: Bachelor of Computing (Honours) in Computer Science

Area of Study	Course Description
Computer Science	Programming Methodology
	Data Structures and Algorithms Accelerated
	Design and Analysis of Algorithms
	Software Engineering[#]
	Computer Organization
	Operating Systems
	Database Systems
	Computer Organization
Artificial Intelligence	Introduction to Artificial Intelligence
	Machine Learning
Mathematics	Calculus for Computing
	Discrete Structures
	Linear Algebra
	Probability and Statistics
Science	General Biology
General Education	Public Persona and Self-Presentations
	"What's in a Word" Meaning Across Cultures
	Junior Seminar: Disasters
	Senior Seminar: Negotiating in a Complex World
	Biomedicine and Singapore Society
	Roots and Wings – Personal and Interpersonal Effectiveness 1.0

The **Software Engineering Project** focuses on designing and implementing a task management tool, Taskle, as named by our team. Taskle allows the user to add various tasks and events into the application, while keeping track of them. Alongside the tasks and events, reminders can also be added. Taskle was designed with the objective to ease the burden off the users for remembering tasks to do and events to attend. It was designed and built with a command line interface in accordance with SOLID principles. It utilized JavaFX, Google Eventbus library and XML serialization for storage.

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