Alex Nguyen *Last update on March 19, 2018*

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Summary

- Software Engineer with Computer Science & Chemical Engineering background (UNSW)
- Front-end (Bootstrap/jQuery) and Mobile (Android & iOS) experience as Software Developer at Sydney Water
- Backend development in Python and Java showcased by IoT Configuration Parser Tool and projects

Experience

Sydney Water Corporation - Digital Solutions
PARRAMATTA, SYDNEY

Junior Software Developer — *Feb 2017 – Mar 2018*
- Implemented **Azure** cloud proof of concept and enabled remote monitoring visualisation for Customer Hub service with a reach of over **1 million** customers
- Contributed a **Python** user tool for automating device configuration of over 1500 data points and 300 devices on the cloud solution
- **Native** mobile application development in **Swift (iOS) and Java (Android)** for Tankstream experience
- Prototyping APIs and web templates using **Flask**
- Scrum web development and testing of public website applications using **jQuery and Javascript**
- Containerised, cross-browser automated testing with Selenium Webdriver (Python) and **Docker**

Sydney Water Corporation - Chemical Dosing Team
PARRAMATTA, SYDNEY

Graduate Chemical Engineer — *Feb 2016 – Jan 2017*
- Streamline administrative processes by moving paper forms to Formsite or Excel VBA macros (e.g. automate timesheeting for projects)
- **PowerShell** scripting to automate updating Emergency Plans for over 30 Chemical Dosing plants containing Dangerous Goods

University of New South Wales - Faculty of Engineering
KENSINGTON, SYDNEY

Student Ambassador — *Nov 2014 – Jan 2016*
- Led a team of 3 Student Ambassadors to execute the 'Wearable Computing' workshop and presentation, engaging 3 groups of over 30 high school students
- Collaborated with UNSW Engineering representatives to execute activities for over 100 high school students at A Day @ UNSW and the Honeywell Engineering Summer School

AdviserLogic Pty Ltd
WYNYARD, SYDNEY

Software Support Consultant — *Sept 2014 – Feb 2015*
- Achieved over 30 support daily ticket resolutions through support over email and Skype

Education

University of New South Wales
KENSINGTON, SYDNEY

Bachelor of Computer Science — *2015 – 2017*
- Honours: Distinction (Overall WAM **79.96**), Dean's List (2015-17)
- Electives: **Algorithms and Programming Techniques**, Database Systems, Operating Systems, Computer Networks & Applications

University of New South Wales
KENSINGTON, SYDNEY

Bachelor of Engineering (Chemical) — *2011 – 2017*
- Honours: Class 1, Dean's List (2011-15)
- Thesis: *Effects of Natural Organic Matter removal and inorganic characteristics on the chlorine decay of waters treated by polyaluminium chloride coagulants*
- Engineering Student Mentor, UNSW Consulting Club member

Fort Street High School
PETERSHAM, SYDNEY

Higher School Certificate — *2009 – 2010*
- NSW HSC ATAR of **99.20** (top 1% of the state)
- Honours: Fortian Award 2010

Projects

IoT Configuration Parser

Device Configuration using Azure Iot Hub, Blob Storage and CosmosDB SDKs *Oct 2017 – Feb 2018*
- Translates CSV command inputs to maintain state on legacy configuration database and reflect this in Azure instance: **IoT Hub, CosmosDB and Blob Storage**
- User-driven tool that handles CRUD operations including Create, Delete, Edit commands
- Object Oriented Design in Python with custom data structures (clients for each SDK, representation of a DB Record) tested using Pytest
- Wrote NodeJS applications and Stored Procedures to schedule interactions with CosmosDB records

Routing Performance

Program for simulating packet routing in Virtual Circuit Networks *Sept – Oct 2017*
- Strategy Pattern for interchanging between routing algorithms (Shortest Hop Path, Shortest Distance Path, Least Loaded Path)
- Object Oriented Design in Python and data structures (Graph, Packet classes) tested using Pytest

Tankstream

Interactive experience exploring Sydney heritage sites (Tankstream) *Jun – Sept 2017*
- Worked as a team of 3 using Scrum development and Atlassian productivity suite (Confluence/JIRA/Bitbucket)
- Native mobile application development for **iOS (Swift) and Android (Java)**
- Implemented user stories for the detailed experience including timeline traversal and media playback features on iOS
- Implemented user stories for the brief description and map view including marker display and location and Read More toggling on Android

BookSwapp

Book trading marketplace concept *Oct – Nov 2016*
- Assumed scrum master and developer role in a team of 4 developers to create the MVP using Angular 1 (JS Frontend), MySQL (Database) and Flask (Python backend)
- Tracked 4-week project burndown to deliver user authentication, CRUD and notification features
- **Distinction** grade achieved for both documentation and final delivery aspects of the project

Extracurricular

Microsoft Code Challenge *Mar 2017, Mar 2018*
- Doubled score as a team of 3 over 2 years of participation

Open Source Contribution *Aug 2017*
- Contributed basic pull requests to Pybee featuring methods for translating Python to Javascript (Batavia) and Java (VOC)

GradWiki *2016*
- Created a Graduate focused wiki resource to retain company knowledge between early career scientists and engineers at Sydney Water
- Created prototype using PHP-based DokuWiki to showcase the need for the wiki and win organisational support for the idea

Chemical Engineering Undergraduate Society Webmaster *2014 – 2015*
- Self-taught HTML and CSS web development methods to revamp existing society web platform using Bootstrap 3

Technical Skills

Languages: Python (2 years), C (2 years), Javascript (1 year), Java (1 year), Powershell (6 months)
Web technologies: Flask, REST, jQuery, NodeJS
Developer tools: Linux (Ubuntu/Arch), Git, PostgreSQL, Cloud (Azure), Docker

Referees

Referees available upon request