DAVID LEI

RESUME

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Honours year Software Engineering Student interested in Machine Learning, Algorithms and user facing products..

TECHNICAL SKILLS

Competent: Python (most proficient), Java, JavaScript. Conversational: SQL, C, C++, TypeScript, Swift, Bash, HTML, MIPS, Perl

EDUCATION

Monash University, Clayton
2015 – Nov 2018

Bachelor of Software Engineering (honours)

- High Distinction average (85.0 WAM, 3.67/4 GPA).
- Honours research areas include information retrieval, machine learning, natural language processing.
- 99 for FIT3080 Intelligent Systems (Artificial Intelligence/Machine Learning).
- 99 for FIT3077 Software Engineering Architecture & Design.

EXPERIENCE

Monash University, Clayton
Feb 2018 - current

Teaching Associate

- Teaching Associate for core second year Object Oriented unit (FIT2099), involves running labs, consultations and marking assignments/exams.

Google, Sydney
Nov 2017 – Feb 2018

Software Engineering Intern
Team: Google Maps – Location Sharing
Project: Implementing a new feature on Android Maps

- Added two features to the Location Sharing Person Card on Google Maps Android, launching later this year.
- Propagated user device data through Google's Maps backends.
- Cached and rendered data on the Location Sharing Person Card.
- Worked collaboratively with UX designers, writers, product managers and other SWEs.

Technologies: Java (Guice, Dagger2, Android), protobuffers, RPCs.

Monash University, Clayton
Aug 2017 - current

Software Developer

- Student made open source project funded by Monash Uni
- Backend developer building REST APIs.
- Added an abstraction layer implementing basic CRUD functionality increasing use of OO and developer efficiency in Java SpringBoot.
- Contribute to course planning and career pathway web applications.

Accenture, Melbourne
April 2017 – Nov 2017

Technical Analyst

- Built a cloud data aggregator using Python, JQuery, AWS S3 and Spulnk.
- Built and architected an automated scheduled reporting pipeline using headless chrome, Python, JQuery and Splunk.
- Mentored the Accenture boot camp (1 week hackathon) in charge of 6 students.

Google, Sydney
Dec 2016 – Feb 2017

Software Engineering Intern
Team: Network Edge SRE (Site Reliability Engineering)
Project: Analysis of BMP routes

Worked on a project visualizing public ISP routing data (RADb) validated against Google's internal network (BMP BGP feeds).

- Built a parser and querier from scratch.
  - Parsed > 196,000,000 lines of semi-structured data.
  - Able to preserve 96% of records.
- Learnt how to navigate Google's internal codebase and tools and build system.
- Lead project and made design decisions.

Technologies: Python, protobuffers, HTML, CSS, JavaScript.

Monash University, Faculty of IT
Jan 2016 – May 2016

Summer Research Student
Supervisors: Assoc. Prof. Alan Dorin (Monash), Assoc. Prof. Adrian Dyer (RMIT)
Project: A World Without Bees – Simulating important agriculture insect pollinators

Developed software in Python for:

- Capturing videos and analysis of bees to extract features.
- Classification of pollinator species based on features, distinguished two species of bees with 77% accuracy.

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VOLUNTARY WORK

WIRED, Monash
July 2017 – Current

IT Society at Monash University.

General Representative Committee Member

- Help organise academic events such as Tech Talks, industry night, coding interview panels and social events such as trivia nights.

Robogals, Monash Chapter
September 2015 – June 2017

Global student run organisation that aims to increase the percentage of females in Engineering/Stem fields.

Schools Manager (2016/17), Volunteer (2015)

- Liaise with schools and other institutions to organise and lead robotics workshops for primary and high school students.
- Promote gender diversity within engineering/STEM fields.
- Lead and instructed robotics workshops at primary and high schools with a focus on females.

Monash University
Dec 2015 – Aug 2016

Faculty of IT Peer Mentor (2016)

- Grouped with first year students to aid their transition from high school university and help build a strong vibrant student community.
- Arranged meet ups during semester and made sure students had access to resources & assist mentees with university life.

HONOURS & AWARDS

Academic:

- Highest grade in my cohort for the following units:
  - 99 FIT3077 Software Engineering Architecture & Design, 2017 semester 1.
  - 99 FIT3080 Intelligent Systems (AI/ML), 2016 semester 2.
  - 91 FIT2001 Systems Development, 2015 semester 2
  - 88 FIT1010 Introduction to Software Engineering, 2015 semester 2
- Summer Research Scholarship from Monash University, Faculty of IT, Clayton Campus.
- Cliff Bellamy award (highest achieving 3rd year undergraduate).

Sporting:

- 2 consecutive gold medals - Victorian State Sprint Swimming championships 2009, 2010.
- 3 consecutive gold medals - School State Swimming championships 2009, 2010, 2011 (set a new state record in 2009).
- Ranked 1st in Victoria & 7th in Australia for 50m Backstroke 2009.
- 2010 Victorian State team for the School Swimming National Championships, Brisbane 2010, placed 3rd.

Programming Competitions

- Placed 3rd in VCPC (Victorian Collegiate Programming Competition) 2017.
- Placed 13th ICPC (International Collegiate Programming Competition) Divisionals 2017.
- 864/6458 HackerRank World CodeSprint 5 2016.

Hackathons:

- Unihack 2017: SeatMe 2nd ($2000), detection system using ML to determine how many people are in a space.
  - Used machine learning (image recognition) to determine the number of people in a venue. We applied this to two uses cases (train carriage & stud space) and built separate frontends for both:
- Spotless Hack 2016: IntelliBin Runners up prize ($1000), solution to overflowing bins for cleaning companies.
  - Real-time analytics platform. Allows companies to efficiently empty bins when near capacity. Solution included an Android app, web app, IOT sensors (Raspberry Pi + Python).
- Unearthed Melbourne 2016: Team Monash People's choice
  - Used machine learning to predict downtime in mines based on real data sets provided.
  - Implemented decision trees, neural networks and anomaly detection.

Projects:

- GeckoDownloadManager (Open Source, 325 users) https://geckodm.github.io/
  - A Google Chrome Extension designed to help students download multiple lectures at once from the 2017 release of Echo360 for Monash University.
- GitHub Trending Repository Viewer (Android App) https://github.com/darvid7/ForkMe-Mobile
  - Created as part of a university project, still a work in progress.

REFERENCES

Available upon request.

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