Alex Cummaudo

Software Engineer

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Skills

CORE

Frontend + Backend Development | iOS Development | RESTful API Design | UI/UX Design | Dynamic Programming | Concurrent Programming | Project Management | Reporting | Prototyping | Excellent Communication Skills | High Coding Standards | Researching | Teaching

TECHNICAL

Objective-C | Swift | Node.js | JavaScript | DOM | Ruby | Python | C# | Java | C | C++ | .NET | Pascal | UIKit | Bootstrap | SCSS | LESS | CSS3 | LaTeX

SOFTWARE

Git | Xcode | Docker | Apache2 | MySQL | PostgreSQL | MongoDB | Nginx | AWS | Emacs | VSCode | Xamarin | Visual Studio | Trello | Pixelmator | Lucidchart

Experience

Research Software Engineer — Dec 2016–Present

Applied Artificial Intelligence Institute (A^2I^2), Deakin University, Burwood

A^2I^2 contributes to the development of human-in-the-loop AI and AI experimentation across all sectors.

- Research data engineering pipelines to detect alphanumeric sequences in unstructured scenes using machine learning.
- Developed label annotation software to assist with curating training data that is fed into training AI models.
- Investigate frameworks to better develop explainable and scalable AI solutions.
- Developed a data science platform that helps integrate data science and software engineering teams.

Resident Tutor — Aug 2017–Present

International House, The University of Melbourne, Parkville

Residential tutor focusing on teaching second-year programming units using Java and C.

- Supplement student knowledge by exposing them to core programming concepts.
- Provide further examples in various languages to broaden language exposure.
- Help prepare students for tests and exams.
- Provide daily pastoral care and mentoring to students.
- Assist students with weekly programming tasks and assignments.

Tutor — Mar 2017–Jun 2017

Deakin University, Burwood

Teaching a first-year Introduction to Apps Design unit.

- Introduce app development concepts, such as monetisation and development lifecycles.
- Develop app prototypes using via mobile-friendly web applications.
- Introduce students to HTML5, CSS, JavaScript, jQuery and DOM manipulation.
- Encourage group discussion with students and pairing exercises.

iOS Developer **Aug 2015–Feb 2016**

SEEK Ltd., Melbourne

SEEK is Australia's largest jobs, employment, career and recruitment website.

- Development and release of the SEEK jobseeker iPhone and iPad app.
- Integrated a prompt for app feedback review, which improved the App Store rating from six 1 star reviews to 33 reviews averaging 4.5 stars on launch-day alone.
- Added personal recommendations to the jobseeker app, providing thousands of personalised jobs to candidates on their mobiles.
- Experience with continuous deployment and test-driven development environments.

Software Engineer **Aug 2014–Aug 2015**

Swinburne NICTA Software Innovation Lab (SSIL), Hawthorn

SSIL delivers research-driven high-impact software and is partnered with National ICT Australia.

- Lead drone-flight software project that automates drone flights.
- Developed fleet visualiser prototype integrated using Google Maps SDK used for bus fleets in Kuala Lumpur.
- Created a web-based IDE used for rapid prototyping software to create Android apps.
- Development with bleeding-edge technology stacks and rapid-prototyping environment.

Tutor **Mar 2014–Aug 2016**

Swinburne University of Technology, Hawthorn

Teaching first-year introductory programming and object-oriented programming units.

- Engagingly teaching students to learn foundation programming concepts.
- Group discussion and running group exercises.
- Preparing students for future programming and problem-solving units.
- Helping students through basic Pascal, C and C**#** and giving one-to-one feedback.

Freelance UI/UX Designer **Mar 2014–Aug 2016**

LeadSoftware, Melbourne

LeadSoftware specialises in complete tracking, logistic and dispatch systems.

- Lead UX and UI design for FairFind, a global marketplace for antique, fashion, fine art and collectable fairs.
- Lead UX and UI design for a large-scale on-board taxi dispatch system and iOS/Android apps in development for CABiT, a Melbourne-based Taxi company.
- Strong interaction with development team to explain prototypes and mock-ups developed and provide feedback on implemented designs.
- Iterative prototype process using a mix of whiteboard, Pixelmator, Keynote and FluidUI.

Publications

ACE 2017 **Jan–Feb 2017**

User Perceptions of Using an Open Learner Model Visualisation Tool for Facilitating Self-regulated Learning

Check-Yee Law, John Grundy, Andrew Cain, Rajesh Vasa, Alex Cummaudo

DOI: 10.1145/3013499.3013502

Open Source

Doubtfire Learning Management System — Jul 2013 – Present

Postgres | Ruby on Rails | Grape | AngularJS | CoffeeScript

github.com/doubtfire-lms

- Developed majority of web-based front-end
- Automated processor for student work upload pretty-printed to PDFs
- Burndown charts to view student progress
- Visualisations representing student learning
- Integrated ticketing system for student helpdesk
- Used at Swinburne, Monash and Deakin universities

SplashKit Educational SDK — Jul 2016 – Dec 2016

C/C++ | Ruby | C# | Python | Pascal

splashkit.io

- Developed language translation processor
- Automated C-code library generation using API parser written in Ruby
- Website development and API documentation

Education

Doctor of Philosophy — Mar 2018–Present

Deakin University, Burwood

Thesis: *Provenance Engineering for Large-Scale Explainable Artificial Intelligence Systems*

Supervisory Panel: Prof. Rajesh Vasa, A/Prof. Andrew Cain, A/Prof. Mohamed Abdelrazek, Prof. John Grundy

Bachelor of Information Technology (Honours) — Mar 2017–Oct 2017

Deakin University, Burwood

H1 - First Class Honours

Thesis: *Recognition and Prominence Ranking of Alphanumeric Number Sequences in Images*

Supervised By: Prof. Rajesh Vasa, A/Prof. Andrew Cain

Homepage: http://deakin.edu.au/∼ca/alphanum

Bachelor of Science, Software Development Major — Aug 2013–Dec 2016

Swinburne University of Technology, Hawthorn

GPA 4.0

Victorian Certificate of Education (VCE) — Feb 2010–Nov 2012

Parade College, Bundoora

Australian Tertiary Admittance Ranking (ATAR) of 98.00 of 99.95.

Awards

University Medal — 28 August 2017

For being the most outstanding student in the Faculty of Science, Engineering and Technology in 2016.

Awarded by Graham Goldsmith – Chancellor, Swinburne University.

Swinburne Computer Science and Software Engineering Prize — 31 May 2017

In recognition of the highest achieving graduate in the BSc. (Software Development) in 2016.

Awarded by Prof. Linda Kristjanson – Vice Chancellor, Swinburne University.

Integrated Application Development James Wauchope Prize — 31 May 2017

In recognition of the highest achieving graduate in the BSc. (Software Development) in 2016.

Awarded by Prof. Linda Kristjanson – Vice Chancellor, Swinburne University.

Pham Family Honours Scholarship **5 Apr 2017**

For a high achieving student commencing the BIT (Honours) in 2017.

Awarded by Prof. Trevor Day – Executive Dean, Deakin University.

Deakin Scholarship of Excellence **1 Mar 2017**

For demonstrating exceptional promise beyond academic achievements.

Awarded by Deakin University.

2016 Swinburne Student Achievement Award **Sep 2016**

For demonstrating a high level capacity to be flexible, adaptable and in overcoming life's challenges in order to meet study commitments.

Awarded by Swinburne University.

Certificate of Achievement Awards **Nov 2014, Jul 2015**

Highest Achieving Student with the highest marks in nine subjects.

Awarded by Prof. John Wilson – Executive Dean, Swinburne University.

Certificate of Appreciation Award **1 Nov 2013**

Swinburne ICT Student Ambassador Program.

Awarded by Prof. Leon Sterling – Dean, Swinburne University.

Vice Chancellor's Scholarship **31 Mar 2013**

On outstanding academic excellence.

Awarded by Prof. Linda Kristjanson – Vice Chancellor, Swinburne University.

Dux Award **8 Feb 2013**

On excellent VCE results and one of the highest ATAR scores in the college.

Awarded by Dr. Denis Moore – Principal, Parade College.

References Available upon request.