Alex Cummaudo
Research Software Engineer

Brunswick, VIC, Australia
BSc, BIT(Hons), PhD(c)

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Experience

Applied Artificial Intelligence Institute, Deakin University, Burwood DEC 2016–PRESENT
Research Software Engineer

RESPONSIBILITIES
- Increase the Institute's research profile by translating engineering outcomes into research contributions and presenting at conferences.
- Improve AI integration into existing software engineering methodologies.
- Writing blog posts on research outcomes in lay terms.

ACHIEVEMENTS
- Developed an end-to-end system to detect racing bib numbers with machine learning that is now deployed at a major events company in India.
- Developed label annotation software to assist with curating training data that is fed into training AI models.

International House, The University of Melbourne, Parkville AUG 2017–NOV 2018
Senior Academic Resident Tutor

RESPONSIBILITIES
- Residential leadership position as onsite pastoral carer and mentor to students.
- Head Tutor responsible for all resident and non-resident tutors.
- Developed weekly programming tasks and prepared students for tests, assignments and exams.
- Responsible for timetable allocation of tutors to tutorials and assist in running the tutorial programme.

ACHIEVEMENTS
- Improved methods to produce tutor duty rosters and student timetables using online tooling.
- Built an online student feedback survey system that improved response rates from 39% to 47%.
- Streamlined outdated student attendance marking system by rebuilding it using Google Sheets.
- Highly rated tutor with student feedback results averaging 4.81/5.

Swinburne NICTA Software Innovation Lab (SSIL), Hawthorn AUG 2014–AUG 2015
Software Engineer

RESPONSIBILITIES
- Responsible for development of client projects.

ACHIEVEMENTS
- Lead developer for automated drone-flight software.
- Developed fleet visualiser prototype integrated using used for bus fleets in Kuala Lumpur.
- Created a web-based IDE used for rapid prototyping software to create Android apps.
- Developed flagship website for SSIL.

SEEK Ltd., Melbourne AUG 2015–FEB 2016
iOS Developer (Industry Placement)

RESPONSIBILITIES
- Responsible to the iOS development team in producing the flagship SEEK.com.au iPhone and iPad apps.
- Assisted in deployment of the app onto the Apple App Store and feature integration.
- Migrated the iOS app into Swift from Objective-C.

ACHIEVEMENTS
- Developed app feature to prompt users to leave app feedback that improved ratings from 1 to 4.5 stars on launch-day alone.
- Developed app feature to show personalised job recommendations to candidates.

Deakin University, Burwood MAR 2017–PRESENT
Tutor

RESPONSIBILITIES

- Teaching Object Oriented Software Development and Introduction to Apps Design units.

ACHIEVEMENTS

- Facilitated group discussion and code pairing.
- Student satisfaction averaging >75%.

Swinburne University of Technology, Hawthorn MAR 2014–AUG 2016
Tutor

RESPONSIBILITIES

- Teaching first-year introductory programming and object-oriented programming units.
- Prepared students for future programming and problem-solving units.
- Helped students with Pascal, C and C#.

ACHIEVEMENTS

- Provided weekly one-to-one feedback to each student.
- Invigilated and marked tests of cohorts up to 60–100 students.
- Facilitated group discussion and group exercises.

LeadSoftware Pty Ltd, Melbourne MAR 2014–AUG 2016
Freelance UI/UX Designer

RESPONSIBILITIES

- Liaised with the development team to explain the UI mock-ups developed and provided feedback on implemented designs.
- Conducted an iterative prototype process using a mix

of whiteboard, Pixelmator, Keynote and FluidUI.

ACHIEVEMENTS

- Led UX and UI design for FairFind mobile app.
- Led UX and UI design for on-board taxi dispatch systems and mobile apps.

❯ Education

❯ Doctor of Philosophy MAR 2018–PRESENT
Deakin University, Burwood
Software Engineering / Artificial Intelligence

❯ BIT(Hons) MAR 2017–OCT 2017
Deakin University, Burwood
H1 - First Class Honours

❯ BSc (Software Development) AUG 2013–DEC 2016
Swinburne University of Technology, Hawthorn
GPA 4.0 of 4.0

❯ VCE FEB 2010–NOV 2012
Parade College, Bundoora
ATAR 98.00 of 99.95.

❯ Academic Publications

- T. Ohtake, A. Cummaudo, M. Abdelrazek, R. Vasa and J. Grundy, "**Merging AI-powered API Outputs using Proportional Representation Approach**," presented at the *2019 International Conference on Web Engineering (ICWE)*, Jun 2019 (accepted for publication).
- J. Renzella, A. Cummaudo, A. Cain, J. Grundy, and J. Meyers, "**SplashKit: A Development Framework for Motivating and Engaging Students in Introductory Programming**," presented at the *2018 IEEE International Conference on Teaching, Assessment, and Learning for Engineering (TALE)*, Dec 2018, pp. 40–47.
- J. Meyers, A. Cain, J. Renzella, and A. Cummaudo, "**A Proposal for Integrating Gamification into Task-Oriented Portfolio Assessment**," presented at the *2018 IEEE International Conference on Teaching, Assessment, and Learning for Engineering (TALE)*, Dec 2018, pp. 1022–1027.
- C.-Y. Law, J. Grundy, A. Cain, R. Vasa, and A. Cummaudo, "**User Perceptions of using an open learner model visualisation tool for facilitating self-regulated learning**," presented at the *Proceedings of the Nineteenth Australasian Computing Education Conference*, Jan 2017, pp. 55–64.

❯ Awards

SWINBURNE UNIVERSITY OF TECHNOLOGY

- **University Medal 2017** 28 Aug 2017; *For being the most outstanding student in the Faculty of Science, Engineering and Technology in 2016.*
- **Swinburne Computer Science and Software Engineering Prize** 31 May 2017; *In recognition of the highest achieving graduate in the BSc. (Software Development) in 2016.*
- **Integrated Application Development James Wauchope Prize** 31 May 2017.
- **2016 Swinburne Student Achievement Award** Sep 2016.
- **Certificate of Achievement Awards** Nov 2014, Jul 2015.
- **Certificate of Appreciation Award** 1 Nov 2013.
- **Vice Chancellor's Scholarship** 31 Mar 2013.

DEAKIN UNIVERSITY

- **Research Training Scheme Scholarship (Australian Postgraduate Award)** Mar 2018.
- **Vice Chancellor's Prize 2018** 3 Oct 2018; *Awarded to the top honours student in each Faculty in 2017.*
- **Pham Family Honours Scholarship** 5 Apr 2017; *For a high achieving student commencing the BIT (Honours) in 2017.*
- **Deakin Scholarship of Excellence** 1 Mar 2017.

PARADE COLLEGE

- **Dux Award** 8 Feb 2013.
- **Chair of Academic Prefect Committee** 2012.

❯ Skills & Hobbies

GENERAL SKILLS

❯ Excellent Communication Skills ❯ Public Speaking ❯ Project Management & Leadership ❯ Research ❯ Reporting ❯ Teaching ❯ Mentoring

TECHNICAL SKILLS

❯ High Coding Standards ❯ Frontend / Backend Development ❯ iOS Development ❯ RESTful API Design ❯ Dynamic Programming ❯ Concurrent Programming ❯ Objective-C ❯ Swift ❯ JavaScript ❯ SQL ❯ Ruby ❯ Python ❯ C# ❯ Java ❯ C ❯ C++ ❯ .NET ❯ Pascal ❯ CSS3 ❯ $\LaTeX$

SOFTWARE SKILLS

❯ Microsoft Office ❯ GSuite (Google Docs, Sheets, and Forms) ❯ Git ❯ MySQL/SQL Server ❯ MongoDB ❯ Apache ❯ Nginx ❯ AWS ❯ Emacs ❯ Trello ❯ Pixelmator ❯ Lucidchart ❯ Visio

HOBBIES

❯ Technology ❯ Politics ❯ Hiking ❯ Food ❯ Travel

❯ Major Open Source Software Contributions

Doubtfire Learning Management System

http://github.com/doubtfire-lms

- Developed web-based front-end in Angular.
- Developed processor for student work upload pretty-printed to PDFs.
- Developed visualisations representing mass student learning and progression.
- Developed ticketing system for student helpdesk.
- Used at Swinburne and Deakin universities with over 15k active monthly users.

SplashKit Educational SDK

http://splashkit.io

- Developed language translation processor.
- Developed automated generation of C code using API parser written in Ruby.
- Developed automated SplashKit API documentation from Headerdoc and published to website.
- Developed and design the SplashKit website used by students.

References available upon request.