

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- Streamlined outdated student attendance marking system by rebuilding it using Google Sheets.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 ➤ L^AT_EX

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

Upon request.