

JAKE RENZELLA

Research Software Engineer, PhD Candidate

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PROFESSIONAL EXPERIENCE

November 2016 Present	Research Software Engineer, APPLIED ARTIFICIAL INTELLIGENCE INSTITUTE <ul style="list-style-type: none">› Lead developer/project lead software projects.› Various full stack development and consulting roles on internal and client-facing projects.› Developer on Artificial Intelligence Pipeline project, used internally as a platform and bootstrapper to streamline and provide structure for the development of new internal AI products.› Presented institute-wide tools and conceptual demonstrations such as Go-Go, a development context-management tool I created, which was incorporated into a number of Institute projects.› Demonstrated and communicated value of products to clients, including demonstrating the Doubtfire Learning Management System to various management teams, including Vice Chancellor of Deakin.› Editor for the A2I2 blog. <div>Consulting Python GitHub Docker Kubernetes Pandas Jira Rails Angular Apache Spark Research</div>
November 2015 Present	Project Lead and Software Engineer, DOUBTFIRE LEARNING MANAGEMENT SYSTEM/ONTRACK <ul style="list-style-type: none">› Develop, guide, market the open-source Doubtfire system used at a number of major Australian universities.› Introduced a hybrid Angular 2+ framework to the existing AngularJS frontend.› Ruby on Rails backend.› Research focusing on introduction of AI, and new modes of interaction for tutor feedback, gamification.› Support Deakin University in adopting Doubtfire to thousands of students. <div>Research Angular Rails Docker Client Support Project Management</div>
January 2017 Present	Teaching & Course Development, DEAKIN UNIVERSITY <ul style="list-style-type: none">› Co-Development of various undergraduate and postgraduate Information Technology units, including: web Development, programming, databases and information retrieval.› Introduced git-based workflow for course development used in the School of IT. <div>Project Management Communication</div>
June 2014 June 2017	Teaching, SWINBURNE UNIVERSITY <ul style="list-style-type: none">› Tutored Algorithmic Problem Solving/Introductory Programming.› Tutored Software Development for Mobile Devices (Android).› Developed Swinburne CodeCasts, an educational video with over 100,000 views. <div>Android Development Video Production Communication</div>

EDUCATION

2018 - Present	PhD (Information Technology) <i>Applied Artificial Intelligence Institute, Deakin University.</i>
2017 - 2017	Bachelor of Information Technology <i>Deakin University, H1 First Class Honours.</i>
2015 - 2015	B.Sc (Computer Science) <i>Exchange at University of Leicester, England.</i>
2013 - 2016	B.Sc (Computer Science) <i>Swinburne University of Technology. High Distinction average.</i>
2012	Victorian Certificate of Education, <i>Victorian Top Performer.</i>

COMPETENCES

Data analysis	Pandas, Numpy, Matplotlib, Jupyter notebooks, Google Analytics, Apache Spark
Software Development	Javascript/ES, Python, Bash, C-based languages, Ruby Rails, Angular
Consulting	operationalising AI, professionalism, applying research outcomes, research reports
Research	Computer Science Education, Applied Artificial Intelligence, Artificial Intelligent Agents
Others	Docker, Git, Markdown, \LaTeX , JSON, XML, CSV, VIM, Kubernetes, Jira, Agile methodologies

+ STRENGTHS

- > Creative
- > Self-starter
- > Analytical
- > Responsible

😊 INTERESTS

- > Classical violin (performance)
- > Tuesday night tennis competition
- > Travel: studied and lived in England
- > Education

🔧 PROJECTS

January 2017
October 2017

Artificial Intelligence Pipeline, APPLIED ARTIFICIAL INTELLIGENCE INSTITUTE

- > An opinionated project scaffold and bootstrapper for internal AI projects.
- > Used by Data Science teams on AI projects to provide a strong engineering-based project structure.
- > Acquired by external AI company.

Bash Python Pandas Jupyter Matplotlib

June 2016
Present

Doubtfire Learning Management System, APPLIED ARTIFICIAL INTELLIGENCE INSTITUTE

- > As part of Deakin's migration of the Doubtfire Learning Management System, I lead a project revitalising and integrating Doubtfire into Deakin systems, such as implementing support for Single Sign-On.
- > Migration to support Kubernetes on the Google Cloud.
- > Hybrid Angular/Angular2+ deployment.
- > Develop native browser-based audio recording and playback system by recreating the browser's MediaRecorder API for cross-browser support.

Angular Rails Bootstrap Material Design HTML Web

January 2016
Present

SplashKit Educational SDK, OPEN-SOURCE

- > Developed and currently maintained a native graphics, audio, web, database educational framework in C - The framework is then translated into many destination languages for students to consume.
- > Developed and designed SplashKit website: <https://splashkit.io>
- > Developed the SplashKit Manager (SKM) Cross-Platform CLI.

C Ruby Web Development Bash

🖋 PUBLICATIONS

Enriching Programming Student Feedback with Audio Comments

Jake Renzella, Andrew Cain

[Researchgate](#)

Supporting better formative feedback in task-oriented portfolio assessment

Jake Renzella, Alex Cummaudo, Andrew Cain, John Grundy, Jonathon Meyers

[IEEE Xplore](#)

SplashKit: A Development Framework for Motivating and Engaging Students in Introductory Programming

Jake Renzella, Alex Cummaudo, Andrew Cain, John Grundy, Jonathon Meyers

[IEEE Xplore](#)

A Proposal for Integrating Gamification into Task-Oriented Portfolio Assessment

Jonathon Meyers, Andrew Cain, Jake Renzella, Alex Cummaudo

[IEEE Xplore](#)

Swinburne CodeCasts Series (Over 100,000 views across platforms)

Andrew Cain, Jake Renzella, Reuben Wilson, Cliff Warren.

[Swinburne Commons](#)

Various papers in review or submission progress