Daniel Buckmaster

Full-stack programmer, entrepreneur and reluctant technophile based in Sydney, Australia

Skills

Programming & problem solving

Web · I'm proficient in cutting-edge HTML/CSS/JavaScript development. I prefer to write modular JavaScript using bundling, transpilation and hot-reloading. I have implemented backends in PHP, Haskell, Go and JavaScript and am experienced in the use of asynchronous backends (e.g. queueing tasks via Redis) and database design.

Games · I have been a significant contributor to the Torque 3D game engine (written in C++). My main areas of interest were pathfinding and AI, and I also implemented engine unit tests using the Google Test framework.

Optimisation · I'm acquainted with optimisation techniques for solving problems. Particularly convex optimisation problems and the cvxpy Python library.

Embedded · I've completed academic and personal projects on embedded hardware using C and assembly languages. I'm familiar with circuit design and electronics.

Operations & workflows

Deployment · I've deployed into managed environments (Heroku, Forge/Envoyer) and bare infrastructure services (AWS and DigitalOcean). I have deployed services using Docker containers, etcd for configuration and systemd for process management.

Agile · I've practised agile methods including sprints, task estimation, pair programming and code review.

Version control · I'm a skilled git user. I know how to modify history and, more importantly, not to.

People & communications

Speaking · I'm a decent presenter of technical subjects and business pitches, as well as debating and teaching.

Writing · I'm a fluent written communicator (in English) and experienced with document preparation in Word, HTML, and LaTeX.

Experience

Co–founder, Pylon

September 2015 — present

Pylon makes sales and design software used by over 100 Australian solar retailers and installers. We received seed investment and mentoring from the Startmate accelerator program in Q1 2016.

As one of two cofounders, I've contributed to the business and communication work of starting a company. This includes pitching at public and private events, customer development and outreach, and generating leads via cold calls and emails.

As the lead developer on the team, I've implemented most of our web backend (using PHP/Laravel and NodeJS) and frontend (using Javascript, Typescript, Vue, THREE.js and Leaflet). The most complex tasks have included:

- coordinating the Leaflet base map and THREE.js visualisation layer with each other and the rest of the application UI
- server-side rendering of combined map tiles and visualisation layers
- auto-saving and triggering calculations from an external API
- our credit-based billing system

Associate Software Engineer, NICTA

July 2014 — December 2015

Applied my frontend skills to the Coviu video and document sharing application, using the cutting-edge WebRTC standard. Implemented document annotations in an efficient and user-friendly manner.

Involved with customer and user research, helping to gather business/UX requirements and communicate NICTA's capabilities to often non-technical clients.

Web Development Contractor, MST Global

December 2013 — June 2016

I implemented several web frontends using AngularJS for controlling and monitoring embedded hardware systems. This work resulted in a frontend template that is used to rapidly produce UIs for new products.

I designed and implemented an embedded server in Go to interface with emergency radio communication hardware. This involved building a web API and frontend as well as managing serial communications with the transmitter.

Education

B.E. (mechatronics) / B.Sc. (computer science), Sydney University   2014

I completed my honours thesis on the use of model-predictive control strategies for solar hot water systems. This involved writing simulation and control software in Python and doing extensive literature review.

I acted as the lead software developer in MTRX3700 final project, architecting a small embedded C application and implementing two of its modules.

I mentored first-year IT and electrical engineering students through programs in class and on my own time.

IB Diploma, Antwerp International School   2009

I was awarded for excellence in physics in my senior year.