Lachlan Bell
Australian, Full Working Rights
Washington, DC
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Profile   An engineer with excellent interpersonal and communication skills who works well alongside both technical and non technical professionals and has a passion for programming and electronics. A strong background in python and automated testing of both hardware and software.

Immigration   In October of 2018, I immigrated to America to be closer to my wife's family. I am a green card holder with full working rights.

Key Skills   Advanced knowledge of Python, and a plethora of different packages.
Proficient knowledge of Javascript and Matlab.
Develops in Linux for AWS applications
Outstanding written and verbal communication.
Proficient knowledge of electronics and wireless communication.
Functions incredibly well as part of a team or as a leader.

Technologies

Python, Linux, JavaScript, Django, Pandas, OpenCV, TensorFlow, Flask, MySQL, SQLite, NoSQL, D3, HTML, CSS, Bootstrap, AWS, GAE, Git, Jenkins, SVN, QT, C/C++, Lua, MATLAB, HDL (Verilog), Electrical Engineering, Signal Processing, Networking, Computer Vision, Image Processing, Deep Learning, Industrial Automation.

Python Skills

Web Development
Full stack web development using Django and Flask with backend databases including MySQL, SQLite and google firestore (NoSQL). Developing and using API calls to fully integrate any system into another one. Some data visualisation with D3.

Data Processing
Data analysis and manipulation using the industry standard python packages, including pandas, scikit-learn, numpy. Has performed in depth statistical analysis on a variety of different data types, and has designed different ML and statistical models.

Computer Vision
Has woked on projects that use libraries such as opencv, numpy, PIL, and tensorflow to develop complex computer vision pipelines. Combining elements of deep learning and traditional image manipulation to create complex solutions to hard problems.

Software Developer / Data Science

Conlan Scientific
Data Scientist, January 2019 - March 2020
Full stack development of Django projects. Worked to develop SaaS platforms for numerous clients, but focused on three main projects.

The first project involved developing machine learned statistical models to predict risk in subprime loans using a range of data sources. All of this bundled in a comprehensive SaaS platform, to be able to easily allow the non-technical client the ability to trivially train new models with ever updating data. Technically this project includes intricate full stack Django design, query optimisations, statistical analysis using standard python packages and general financial institution savviness.

The second project involved the integration of a massive video processing pipeline. Videos were recorded in near real time, and uploaded online. The videos go through multiple steps to find ideal frames in order to then do more image processing in order generate an aesthetically pleasing end result. All of this had to be performed with very limited hardware. This project involved a lot of IO management, CPU management, image processing/computer vision, multiple tensorflow models, and a lot of UI/UX and to top it off, analysis of success rates on the platform. The project posed many technical challenges as there were many design constraints and requirements.

The third major project was developing and online learning platform. While it was likely the "simplest" of the major projects, it still involved elements of natural language learning, in order to automatically generate keywords from articles, and create a dynamic living index.

Other work involved significant database cleaning ETL jobs, and other web data visualisation work.

Software Development / Engineering

NetComm Wireless (NKN Casa Systems), August 2016 - October 2018
Production Engineer
The role was taking responsibility for the production of several electronic devices. This involved a system level design of the logistics of the production line, as well as the design of tests, design of test fixtures, the writing of production test software and general day to day monitoring.

The largest portion of my work involved writing the test software, which was required to run as quickly as possible, while still testing all components of the hardware. This software needed to be easy to use for factory workers, incredibly consistent, and be able to find never before seen before defects in the products we were manufacturing. In order to successfully do this, I was required to have an intricate understanding of the product from an electrical, software and mechanical viewpoint. In order to achieve this insight, it was imperative that I

was able to efficiently communicate across all the related engineering teams and design my system to accommodate everything.

This role saw me traveling to locals in Australia as well as China, Taiwan and the USA on multiple occasions to over see work done for NetComm's largest project. Many times unforeseen events would require us to hot fix solutions, and we were constantly handling pressure from time constraints.

While technically, a quality control role, this position saw me flexing a diverse range of engineering skills across many disciplines.

Pesce Engineering, January 2016 - July 2016
Student Engineer
> Helped develop industrial automation system using PLC programming to help install new electrical monitoring systems on a military base. This was an exercise in precision and high code quality. It also required high levels of testing, both manual and automated.

Formal Education
Australian National University   January 2011 - July 2016
College of Engineering
BA, Engineering (Honours), Major in Electronics and Communication Systems

Side Projects
Ram-Share.com   Late 2019 – Sometime soon
I have been working hard on an online multiplayer gaming platform that will hopefully allow players to integrate multiplayer elements into otherwise single player games. This project has involved learning the Google App Engine environment, Google Firebase, Flask, websockets, retro game emulation, and C++ programming. Please see www.ram-share.com for more information.

References

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