**REPORT**

My tenure at IBM Research Australia lasted from 25th July to 16th December 2016. I was taken on as an intern for the Infrastructure, Services, and Technologies team for the IBM Research Lab in Carlton. Throughout my time in this time, I worked on a range of different projects, as well as learned quite a bit about the work being performed at the lab.

One of my very first projects was to assist the team in migrating their repositories from one version control platform (gitlab) to another (github). In doing so, I learned about version control using git as well as to handle dependencies within code, as some parts of the repositories had to be altered to make them compatible with the new version control platform. I also attempted to assist another group within the lab, specifically the retinal imaging team, in one of their projects – to clean up their collection of stereoscopic retinal images by removing dust from the camera lens using the image processing library “OpenCV” in conjunction with Python. However, this project turned out to be very time consuming and I was forced to abandon it in favour of my responsibilities within my team.

For my most major project as part of the team, I was given the responsibility to create a client for users to authenticate against GSA, a file storage system based around NFS on UNIX systems. In the process of creating this piece of software, I gained knowledge of UNIX systems (specifically RedHat and Debian-based systems), as well as the programming language Ruby and a DevOps automation framework known as Chef, which are the tools I used to write the software. Initially, the software's scope was limited to RedHat/CentOS based environments, but its functionality was soon expanded to Ubuntu/Debian, and with the help of my team members, I was able to create a piece of software that could contribute real value to the lab and to the team.

For a period of time, I was also working with the lab’s robotics expert, Hidemasa Muta. This required me to create some 3D models, and hence I had to become familiar with 3D CAD software, in this case Blender. I used my knowledge of 3D printing to print some models on the lab’s 3D printer to assist Hide in his endeavor of using humanoid robots to detect objects. This gave me the chance to learn more about 3D printing, and what it takes to create a printable 3D model.

Along the way, I had some projects that I was involved in throughout my time, such as providing technical support to the other teams in the lab. Some of my responsibilities included providing support for the ThinkLab Galaxy, which was a system of 3 screens used for interactive client engagements, and VideoWall, which was a collection of 14 screens used mainly for PowerPoint based presentations. I provided technical support for these systems on both the front-end and back-end. In addition, I was responsible for recording weekly “tech talks” that took place at the lab, in which a staff member of the lab would discuss a technology-related topic, as well as edit these tech talks using the Adobe Premiere Pro software which allowed me to get familiar with both the operation of a professional-grade camera and editing software. Furthermore, I was tasked with equipping all the TVs used in the lab with an Apple TV, which would provide a wireless solution for lab staff members to connect their devices to the TVs for meetings or presentations.

Through the talks held each week at the lab, as well as talking to researchers from other teams, I learned a great deal about other topics such as Blockchain, Internet of Things, and Deep Learning which allowed me to then go on and research these topics in my free time and broaden my horizons.

Overall, I would say that my experience during the internship has been very satisfying. I have learned a lot about many different topics, and this has allowed me to carefully consider not only my career path, but my academic path as well.