

Team Charter

Group 5 (G5)

Group Members

Adam Blewitt
Cameron Nyberg
Darren Sheehan
Andrew Smith
Patrick Funnell

Vision

The group aims to deploy a machine learning model capable of detecting bushfire and flood-affected areas from aerial and LiDAR imagery for the NSW Department of Customer Service (DCS). G5 will complete the project while learning new skills in teamwork, project management, machine learning, and following the Unified Process framework. We aim to work together to create something which individually we are unable to, and to use teamwork to overcome obstacles during the project.

Goals

- ❖ To become proficient with AWS tools and services such as AWS Glue, a serverless data integration service for analytics, and AWS Sagemaker for machine learning and application development.
- ❖ To understand the fundamental concepts of machine learning, with an emphasis on computer vision, supervised and unsupervised learning algorithms, feature extraction, classification problems, hyperparameter tuning and various models such as support vector machines (SVMs) and convolutional neural networks (CNNs).
- ❖ To deploy a machine learning model with a high degree of accuracy when applied to new data sets.
- ❖ To foster a positive and professional working relationship with the NSW DCS and other associated government departments.

Quality

The quality of the work produced by the team will be to the best of their combined ability. Through working together and ensuring that tests are performed to a high standard the work done will be checked and tested to a high degree. The use of GitHub as a version control platform will provide traceability of changes to our work, providing additional quality control. Code reviews will be conducted by a minimum of two people before a commit who will be assigned during the previous team meeting. Code reviews should be completed within 48 hours of notification with adjustments made at the team's discretion.

In order to ensure proper compliance the team will liaise with NSW DCS to identify issues surrounding application performance and security.

Expected work commitment.

As per the recommended time commitment provided in the subject outline the team agrees to where possible allow the following breakdown of hours per iteration:

- ❖ Iteration objective and work item planning: 1 hour (as a group)
- ❖ Work on assigned work items: 12 hours (individual)
- ❖ Interaction with version control: 1 hour (individual)
- ❖ Miscellaneous communication with other team members: 3 hours (individual)
- ❖ Miscellaneous administrative tasks: 1 hour (as a group or individual)
- ❖ Iteration objective and work item assessment: 1 hour (as a group)
- ❖ Oversight meeting: 1 hour (as a group)

Communication and response expectations

To ensure the project progresses in a timely fashion, a response time of 8 hours is expected by team members.

Discord will be used as the push communication method for the team, providing the ability of both text and voice chat as well as file transfer. This will be the primary method of communication during the project.

Email will be used as another form of communication where required. Email addresses of all members must be shared within the group to facilitate this.

Weekly meetings will be arranged at a time when all members can attend and will occur through Discord. Intended absence should be provided prior to a meeting where possible. Where a meeting has been missed an update will be provided in the form of minutes taken at the meeting.

A scribe will be assigned for each meeting whose responsibility will be to take meeting minutes. These should be uploaded to version control within 24 hours.

Charter noncompliance or non-performance

During the project if a member of the team behaves in a way which contrary to the agreed goals and expectations of the group or slows the progress of the project in ways including but not limited to:

- ❖ Not completing assigned tasks
- ❖ Not helping fellow team members
- ❖ Being rude or dismissive of other team members
- ❖ Continuously not responding to group communications

Then that team member will be subject to the performance management regimen outlined below. To prevent abuse of the performance management process by any one individual all decisions on issuing warnings will be voted on by the group, with a majority rules outcome. That is, if at least three members are in favour of an action, then it will be taken.

Performance Management Process

First Infringement

The offending person's behaviour will be discussed during a team meeting where they will have the opportunity to explain their actions. If at least three other members are not satisfied with the offending member's reasons then they will receive a formal warning from the group. The warning will be noted in the meeting minutes.

Second Infringement

If a team member once again fails to adhere to the team's standards and expectations, their behaviour will once again be discussed during a team meeting. If at least three members are not satisfied with the member's reasons then they will be given a second and final warning. The warning will again be recorded in the meeting minutes and the course director will also be notified by email.

Third & Final Infringement

The group will convene for a meeting as soon as possible. If the group is dissatisfied with the offending member's behaviour then the member will be removed from the group.

Team resume

Darren Sheehan (daz.sheehan@gmail.com)	<p>The skills I bring to the team include: Programming various languages including Python, Java, SQL, VBScript, PowerShell, C#, PHP, ASP, .Net Razor Pages, HTML, JavaScript, and CSS. I also have experience in working with various database platforms, mainly MS SQL including Reporting Services and Integration services, but also have used MySQL and SQLite plus some unique multivalued databases such as Rocket UniVerse.</p> <p>I have over 9 years experience in corporate IT employment. I currently work as a Senior Applications and Projects Officer managing projects, designing and programming front end and back end systems for a bank in a highly regulated environment that demands 24/7 uptime.</p> <p>While I have done little with Amazon Web Services before I am keen to learn more about the platform.</p> <p>I am committed to working on this project to the best of my ability, I expect my existing skills will assist in learning the new skills required for this project at an accelerated rate.</p>
Andrew Smith (andrewsmiths mith@gmail.com)	<p>I have experience coding in Java, Python, HTML, CSS, Kivy, SQL. In regards to databases I have experience with MySQL, SQLite and JSON-formatted databases.</p> <p>I have developed mobile applications in Android Studio and Kivy for Python.</p> <p>I have also worked on an artificial neural network for classifying four different types of fruit.</p> <p>In my current job I am responsible for overseeing a team in an operating theatre environment, delegating tasks, time-management, and ongoing risk assessment.</p> <p>I am engaged in ongoing training with the AWS platform. I have completed the introductory modules on cloud practitioner resources and several modules relating to AI and machine learning.</p> <p>I am prepared to commit as much time and resources to this project as needed to achieve a high mark and a great outcome for the team.</p>

<p>Patrick Funnell (pfunnell@csu.edu.au)</p>	<p>About Software / technology, aviation and IOT gardening enthusiast.</p> <p>Strengths</p> <ul style="list-style-type: none"> - Management - Technical consulting - Training - Technical problem solving <p>Work experience</p> <ul style="list-style-type: none"> - IT Technician, Computer Shop @ Charles Sturt (18 Months) - Acting Senior Technical Consultant, Computer Shop @ Charles Sturt (2 Months) <p>Interests</p> <ul style="list-style-type: none"> - Programming, Aviation, Automated / IOT gardening , Board games <p>Programming history and experience</p> <ul style="list-style-type: none"> - Started Python in 2015, working on automation scripting. - Started Java in 2019, degree's language of choice and my personal favourite. - Started ASP.NET in 2019, relating to side projects using Visual studio and Azure deployments. - Excel scripting 2020 - 2021, relating to asset management databases. - Access DB / Mysql structuring and scripting 2020 - 2021, relating to asset management databases. <p>Languages</p> <ul style="list-style-type: none"> • Java • Python • VBA / VB • Batch • ASP.NET / C# • MySQL <p>Software of choice</p> <ul style="list-style-type: none"> - Access DB - Visual Studio & Visual Studio Code - Eclipse (Java) - Bit Bucket <p>I am committed to bringing my best and working as a team player. I hope to learn much from my teammates and also share much of what I have to offer.</p>
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<p>Adam Blewitt (adamblewitt@gmail.com)</p>	<p>Occupation: Systems integrator / Specialist - Integrating environmental sensors into telemetered monitoring platforms. Very broad range of skills required including electronics and their applications, able to utilise various communication methods (Cellular, Radio), web technologies, computer networking, programming.</p> <p>Previous roles: Previously worked as a Data Technician / system administrator within an AWS environment. Being responsible for 8+ servers utilised for data acquisition, storage and presentation (website). This also involved a networking stack that allowed data acquisition from field devices through cellular(dial up and TCP) and into the AWS platform.</p> <p>Skills:</p> <ul style="list-style-type: none"> • System administration in an AWS environment • Programming in Java, web (html, js, php), python, C, CRBasic • TCP/IP Networking inside and outside of an AWS environment • Electronics (prototyping, MCU programming) • Industrial communications (ModBus, DNP3) • SCADA System configuration • Communications (Cellular / Radio) <p>Experience:</p> <ul style="list-style-type: none"> • 9 years as a system integrator • Experience developing small programs for system automation and data conversions • Working with public and private sectors delivering projects evolving around environmental monitoring (flood warning, compliance monitoring, wave and current monitoring)
<p>Cameron Nyberg (camnothin0@gmail.com)</p>	<p>The skills I bring involve Git usage, deployment tools, programming as well as some basic AWS interactions.</p> <p>At work, I frequently develop script in Python and PowerShell as well as, to a smaller degree, PHP. I learnt to code with JavaScript, before moving onto my most familiar language (Lua) and have furthered my skills with SourcePawn (a scripting language, similar to C) and Java, with various university and video game applications. As a result of this, Git is a part of my usual work flow, both in the sense of work and home projects.</p> <p>I'm always eager to learn and further my skills and have identified AWS and AI as immensely interesting and important</p>

	upcoming and advancing technologies that I would love to venture into. I'm committed to exploring and furthering my knowledge and skills as much as possible.
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Risks

Refer to [Risk Assessment](#) document.

Roles & Responsibilities

Leaders

Shared leadership, a project council. Each member should bring different aspects of their leadership to the table. Major decisions are elected together through extensive communication both in and outside of meetings. Minor decisions can be made over push communications by a minority, if unsure in how to proceed then the majority of the group should be involved.

Primary: Shared

Secondary: N/A

Scribe

Rotating roster, everyone will have a turn at doing this. We will follow a standard template for recording the minutes which can be located on the group Google Drive. The Scribe will provide the minutes within the time described under Communication and Response Expectations. Using the push notification system, each team member posts in the scribe channel to raise their intention of being scribe. Once the order is decided, the team will continue on a rotational basis.

Primary: Shared, rotational

Secondary: N/A

Wiki Editor

The Wiki Editor is responsible for maintaining and updating the team's Wiki pages on Blackboard.

Primary: Adam Blewitt

Secondary: Darren Sheehan

Git Advisor

The Git Advisor is responsible for providing guidance on Git protocols in the event of any issues. Although the team will all follow standard Git workflows and protocols the Git Advisor will provide oversight and assistance.

Primary: Cameron Nyberg

Secondary: Adam Blewitt

Style Advisor

The Style Advisor is responsible for ensuring all documents adhere to the [style guidelines](#).

Primary: Patrick Funnell

Secondary: Andrew Smith