

# LEWIS SMITH

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## EXPERIENCE

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### Maxwell Plus

*Lead Machine Learning Engineer*

Brisbane, Qld  
July 2020 - Present

- Responsible for the hiring and managing of the data science team
- Implemented a model which used Gaussian Processes to interpolate historical blood markers to be used in a state-of-the-art CNN + LSTM model to predict the likelihood of a patient developing Prostate cancer. Paper accepted <https://pubmed.ncbi.nlm.nih.gov/34920976/> (Python, Tensorflow)
- Developed a novel optimisation technique for combined learning of different 3D MRI segmentation labels achieving state-of-the-art anatomical segmentation of the prostate. Poster accepted in APCC 2021 (Python, Tensorflow)
- Implemented a model to segment and classify cancerous lesions within MRI images using an attention based 3D Unet (Python, Tensorflow)

*Machine Learning Engineer*

Jan 2018 - July 2020

- Created a cost optimised distributed deep learning training system using on-demand instances reducing costs training costs by 70% (AWS, K8s)
- Created a pipeline to process and segment terabytes of 3D medical imaging data (Python, Apache Beam)
- Built and maintained a series of asynchronous deep learning prediction end points (Python, Django, Celery, Docker)
- Standardized Tensorflow model creation and serving development pipeline by creating templates, tests and code standard documentation (Python, Bash)
- Assisted in the development and testing of a patient management platform (React, Typescript, JS)

### SAP Innovation Center

*Software Engineer*

Brisbane, Qld  
June 2016 - Dec 2017

- Clustering of time-series data to group similar customers together based on their transactional behavior (SQL)
- Implemented a model to predict how many days until a customer will churn from a bank based on transaction data using a Recurrent Neural Network (Python, Tensorflow, SQL)
- Optimising SQL query plans and table partitioning to improve back-end performance (SQL)

*Software Engineer - Intern*

Mar 2016 - June 2016

- Generating realistic multi-million row data sets for usage in product demonstrations - banking transaction analytics (SQL, Python)
- Created back-end unit tests for data analytics application (JavaScript)

## EDUCATION

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### University of Queensland

Bachelor of Engineering (Software Engineering)

Brisbane, Qld  
Graduated 2017

## SKILLS

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Programming Languages: Python, JavaScript (ES6), React/Redux, Typescript, HTML5, CSS3, Bash  
Technologies: Docker, Ansible, Kubernetes, Git, Apache Beam, AWS, Google Cloud, Cypress

## PROJECTS

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### The Boxing Book *React, Typescript*

[www.theboxingbook.com](http://www.theboxingbook.com)

Amateur boxing database officially used by Boxing Australia for fighter tracking and match-making

### Distributed Tensorflow Project Template *Python, Bash*

[github.com/leewwiiss/Distributed-Tensorflow-Template](https://github.com/leewwiiss/Distributed-Tensorflow-Template)

A template for creating pragmatic Tensorflow models with Python coding best practices in mind

## AWARDS

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### Most Innovative Business Idea

Startup Weekend for Health

Wearable technology for babies to track and analyse health metrics to improve parents/babies quality of life

Brisbane, Qld  
Mar, 2016