# Jack **McKew**

SENIOR SOFTWARE ENGINEER · TECHNICAL WRITER · DATA ENGINEER

*Eligible for E-3 Work Visa (Australian Citizen)*

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## Work Experience

### Lead Data & Senior Full Stack Software Engineer
*2020 - 2025*

DECKEE
*Full Time*

- Secured a $1.3 million dollar contract through designing, developing and delivering a successful real world trial of a search and rescue platform solution involving 6 marine rescue bases with over 50 volunteers in Western Australia.
- Generated over $300,000 in revenue within two months of launch by leading and delivering a data analytics platform and data lake for government and commercial clients to interact with on-the-water data for their communities.
- Delivered key features for iOS and Android to keep over 400,000 boaters safe on the water through: weather alerts, geo spatial safety information, automatic on the water detection, log on log off and more.
- Achieved a 0% cost increase over four years of development, being responsible for managing all DevOps, security, infrastructure, and cost management of cloud resources on AWS while leading a successful migration to well-architected infrastructure and managed services.
- Lead the journey from capturing 0 data points, to over 9 billion data points and growing.

### Founder & Principal Consultant
*2020 - 2025*

CYBERLYTICA
*Part Time*

- Freelance digital services company specialising in data services.
- Services include data automation, analytics & visualisation.

### Technical Writer
*2024*

GALAH CYBER
*Part Time*

- Responsible for compiling, editing and delivering technical cyber security assessment reports to clients.
- Accountable for documenting vulnerabilities and recommendations in a clear, concise manner.

### Senior Software Engineer
*2022*

ARROWTAIL
*Part Time*

- Responsible for integrating Arrowtail's explosive delivery capture app with on-site inventory management.

### Electrical / Software Engineer
*2017 - 2020*

AECOM
*Full Time*

- Development and distribution of scientific computing software for environmental data sets.
- Saved approximately 900 working hours through automation in 20% of my time.
- Pioneered and lead an Australia-wide Microsoft Excel training sessions.
- Designed lighting, reticulation, switchboards, lightning protection systems and PLC network systems.

### Undergraduate Controls Engineer
*2016 - 2018*

HUNTER H2O
*Part Time*

- Responsible for developing control & SCADA systems for water and wastewater treatment plants during my studies.

## Skills

| | |
|---|---|
| **DevOps** | AWS, GCP, Azure, Github Actions, Docker, Kubernetes, AWS CDK, Cloudformation |
| **Back-end** | Express, REST API, Fast API, Swagger, RabbitMQ |
| **Front-end** | Redux, React, HTML5, SASS, Cordova, Capacitor |
| **Data** | PostgreSQL, Pandas, SKLearn, PyTorch, Apache Spark, AWS Glue, Numpy, Elasticsearch, Kibana |
| **Programming** | Node.js, Typescript, Javascript, Python, SQL, NoSQL, LaTeX, VBA, C, C++ |
| **Languages** | English (native), Spanish (intermediate), Italian (elementary) |

## Projects

### Deckee Analytics

LEAD ENGINEER

- Generated over $300,000 in revenue within the first two months of launch through developing & delivering a full stack interactive data visualisation platform with user management through Auth0.
- Responsible for implementing the full stack data lake solution on AWS, capturing millions of events from user devices and, querying over 9 billion data points.
- Pioneered anonymisation techniques to protect user privacy for sensitive information.
- Strategised and implemented new methodologies for communicating data analysis to an industry.
- Responsible for data scraping, natural language processing, sentiment analysis and mass translation.

### On the water detection

Lead Engineer

- Currently handling over 100 locations per second, responsible for implementing an event driven system to identify locations to be on the water.
- Automatically enabled safety features including weather alerts, sharing location with safety contacts, logging on with marine rescue.
- Integrated through all services to contribute to the data lake.

### Stock Inventory API Integration

Lead Engineer

- Delivered an asynchronous API integration using event driven architecture to integrate with on-site inventory management software.
- Documented technical aspects and on-boarded developers to continue the development of the API integration.

### Air Quality Toolkit

Data Scientist

- Developed, packaged and distributed software to automate tasks reducing a week long task to seconds.
- Developed re-sampling tooling such that high frequency atmospheric data can be used in models.
- Built interactive data visualisation tooling to communicate data with clients.

### Vulnerability Mapping Tool

Data Scientist

- Automated GIS analysis to model vulnerability of communities to natural disasters, saving time and enhancing repeatability.
- Compiled over 200 various sources of statistical and functional information to model vulnerability.
- Developed interactive visualisations to assist data driven decision making.

## Writing

### The Geography of Covid-19 Spread in Italy Using Social Media and Geospatial Data Analytics · 2021

Co-Writer

- Published in The International Journal of Intelligence, Security, and Public Affairs.
- Responsible for data scraping, natural language processing, sentiment analysis and mass translation.

### Expert Opinion for NSW Litigation Case · 2021

Writer

- Engaged & delivered an expert opinion for a software litigation case under the NSW court.

## Education

### University of Newcastle · 2015 - 2018

Bachelor of Electrical Engineering (with Honours)

- Completed a thesis on an in home appliance scheduler to optimise energy consumption & costs.

## Extracurricular Activity

### Full Cave & Rescue Diver · 2023 - Present

PADI, SSI, TDI

- Certified Full Cave & Rescue Scuba Diver skilled in advanced emergency response and underwater rescue techniques to ensure diver safety.
- Extensive experience in cave diving, international dives across multiple countries, and encounters with sharks.

### Hunter Data Analytics · 2019 - 2022

Organiser & Speaker

- Monthly meetup in Newcastle Australia for data enthusiasts.

### Pyinstaller Actions Windows & Linux · 2020 - Present

Creator & Maintainer

- Github Action with over 150 stars for building executables from Python code with PyInstaller.

### Pandas Alive · 2020 - Present

Creator & Maintainer

- Create stunning, animated visualisations with Pandas & Matplotlib in one line of code.
- Over 15,000 downloads & 120 stars on Github in the first 4 weeks of release.

## Presentation

### Pycon 2020 · 2020

Presenter for Github Actions & Python

- Introduced Github Actions and how to integrate this with Python workflows.