Jack **McKew**

SENIOR SOFTWARE ENGINEER · TECHNICAL WRITER · DATA ENGINEER

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Work Experience

Lead Data & Senior Full Stack Software Engineer
2020 - Present

DECKEE
Full Time

- 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.
- 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.
- 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.

Technical Writer
2024 - Present

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.

Founder & Principal Consultant
2020 - Present

CYBERLYTICA
Part Time

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

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.
- Lighting, reticulation, switchboard, lightning protection system, PLC network design.

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
Programming	Node.js, Typescript, Javascript, Python, SQL, NoSQL, LaTeX, VBA, C, C++
Languages	English (native), Spanish (elementary), 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.

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 ──────────────────────────

Rescue Diver   *2023 - Present*

PADI

- Certified 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.