JOSEPH GURR

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EDUCATION

University of Newcastle, Australia   *2014-2019*
B. Mathematics (Pure Mathematics)   *GPA 6.96/7, WAM 91.39/100*

PROFESSIONAL CERTIFICATIONS

Apache Druid Basics   *expires Dec 2023*

WORK EXPERIENCE

Sessional Acadmeic at The University of Newcastle   *Feburary 2022 - present*

I run mathematics tutorials for first year science and engineering students. The content covers advanced calculus, linear algebra, and differential equations.

SwitchDin

SwitchDin is a energy startup that is trying to transform the world's energy grids to be highly distributed and renewable.

Data Science Engineer   *July 2021 - Janurary 2022*

My team developed distributed optimisation procedures that run on edge devices (Raspberry Pi) to control distributed energy resources. This involved having to run forecasts in real time, solve a convex optimisation problem, process the output, and then have the control implemented on an external device. This was done in Python.

Data Services Team Lead (acting)   *January 2021 - July 2021*

In the absence of a leader for the newly formed Data Services team I stepped up to the challenge and stood in as the temporary team leader. I lead a team of four data science professionals. This role included software development, internal and external stakeholder management, and management of my team members. Some of my responsibilities included providing and managing a performant and cost effective time series database, providing and operating an OLAP site used by our external clients, developing forecasting algorithms and collaborating with other teams on convex optimisation problems, developing market based decision making technologies, and more typical reporting functionality.

Web Services Engineer   *May 2020 - January 2021*

I built web and mobile applications using Angular and Ionic. I worked closely with our back-end teams, designers, and external customers to deliver the best product.

Heffron

Heffron provides administration, education, and other services to assist clients with their SMSFs (Self Managed Superannuation Funds). They are specialists in this field.

November 2016 - November 2019

I began at Heffron in a data entry role. I quickly saw ways to automate many parts of my job. I taught myself how to write simple programs before taking some software engineering courses at uni. In my first year I was responsible for refactoring a critical algorithm that determines payable tax for certain SMSFs. This was done in Symfony (a php framework). I also worked on front end wizards that were written in KnockoutJS.

From here I worked on how to make certain parts of the organisation more efficient. I helped increase to use of DocuSign by writing extensive internal documentation. I worked on assessing the regular expression engine used in one of the major pieces of software that the accountants used (Class).

From here I worked on the massive project of transitioning our technology stack from a Symfony and KnockoutJS stack to a serverless architecture using AWS Lambdas (using Typescript). I used DynamoDB and IAM as a part of this. During this time I also worked on a customer facing CMS that our marketing team would ultimately manage.

Mathematics Undergraduate Summer Vacation Scholarship   *November 2015 - January 2016*
I worked to develop a greater understanding of linear representations of k-regular sequences and Stern's diatomic sequence under the guidance of Associate Professor Michael Coons Jr.

Private tutoring   *January 2012 - present*
I have extensive experience tutoring secondary and tertiary students in mathematics, physics, chemistry, and statistics.

TECHNOLOGIES/PROGRAMMING LANGUAGES

* I have worked with this in a professional capacity in a non-trivial way

Front-End HTML* (plus a variety of HTML templating languages like razor, blade, and jinja2), CSS* (SASS*, SCSS*), Javascript*/Typescript* (Angular*, Ionic*)

Back-End Python* (Django*, Flask), NodeJS*, Java

Data RDBMS (Postgres*, MySQL*, MariaDB, SQLite), NoSQL (DynamoDB*, MongoDB), Apache Druid*, Apache Superset*, RabbitMQ*, Kafka*, Redis*, Pandas*/Numpy*/other Python data packages*, R

Operating Systems Ubuntu* (16.04, 18.04*, 20.04*), MacOS X, Windows 10

Other git* (GitHub*, GitLab*, Bitbucket*), Docker*, AWS* (mainly S3*, Lambda*, APIGateway*, CloudFormation*), TEX (LATEX), Atlassian Suite* (JIRA*, Confluence*)

Other technologies/programming languages I have used in a limited capacity include: Ansible, Vue, React, LISP, PHP, C, C++, SPSS, MATLAB, Haskell, Docker Swarm, and Kubernetes

I am experienced in CI/CD, TDD, and Agile

ACHIEVEMENTS

Awarded the New Columbo Plan Mobility Scholarship to participate in the Reimagining India program	*2018*
Placed on the Faculty of Science Commendation List	*2015, 2016, 2018*
Awarded the School of Mathematics and Physical Sciences Vacation Scholarship	*2015*
Awarded the Shaping Futures Scholarship	*2015*

Awarded the Vice Chancellor's Scholarship for Academic Excellence in Year 12 *2015*