

SARA VAGNARELLI

Software Engineer

@ saravagnarelli@gmail.com
github.com/saravgn

Sydney, NSW, Australia
saravagnarelli.com

linkedin.com/in/engsaravagnarelli/ +61 427 487 300
Work authorization: Australian Permanent Resident

EXPERIENCE

Senior Software Engineer

Deckard Technologies

Aug 2018 - Present Sydney, Australia

Deckard designs and develops analytical reporting systems using modern deep data mining, machine learning and predictive analytical algorithms to ensure that local governments have the insights to return equity of obligations back to the community and sustain healthy revenue to support smart city growth.

- Wrote **AWS CloudFormation** scripts to build CodePipelines for CI/CD and **ETL**. Designed scalable and economic data pipeline process that ensures reliability and consistency for a large number of data feeds. Created **Datadog** Dashboard and Alerts through CloudFormation scripts to analyse log stream.
AWS - Python (TDD), Docker, boto3, CloudFormation, Jinja2, CloudWatch, CodePipeline, CodeBuild, Batch, S3, Glue(basic PySpark), Athena, EC2, Selenium, Jira, Github.
- Developed a full-stack website - mainly the back-end to create a unified view of output of the **data analytic processes** and enable us, data analysts, to quickly evaluate results and prove our algorithms. Techstack: **Python, Postgres, Rest-ful APIs, AWS-Cognito for user authentication, AWS API Gateway, Flask, React, Wireframe, LucidChart.**
Contributed to React Redux Datable library
<https://github.com/sean-ww/react-redux-datable/graphs/contributors>.

Software Engineer

Qualcomm ESGDA - Engineering Service Group Data Analytics

Nov 2016 - May 2018 Sydney, Australia

The Engineering Services Group Data Analytics team builds creative and reliable big data solutions that add value across Qualcomm. These solutions range from but are not limited to wireless communications, intellectual property and financial analysis.

DIRBS - Device Identification and Reporting System

http://www.pta.gov.pk/media/dirbs_cons_paper_220616.pdf

DIRBS is a large scale system currently running in Pakistan, designed to enable identification and blocking of illegal/counterfeit, cloned or stolen devices running on phone networks.

- Accumulated significant experience in developing performant, efficient **Python** code, applying a test-driven methodology to guarantee the correctness of the code after modifications
- Profiling and debugging** of performance related problems both in Python code and in **SQL** database code.
- Development of **REST-ful APIs** to access information and allow data exchange between multiple components of larger systems (**Flask, HTML, CSS**)
- Automated regression test suite** which exercised 95%+ of the codebase using **PyTest** and **unittest**.
- Used **Jenkins** and **Docker** for continuous integration and **GitHub** for Revision Control. Followed an agile methodology and participation in weekly code reviews. Used **Jira, Confluence**.

SUMMARY

I have Bachelor's and Master's Degree in Computer Science and 5 years of working experience as Software Engineer. I enjoy developing and experimenting with new technology but I prefer to be technology-agnostic and find the best solution to the problem. I am looking for a challenging role that drives change and provides opportunities for career development.

EDUCATION

M.S. in Computer Engineering

Roma Tre University, Italy

Oct 2012 - May 2015

B.S. in Computer Engineering

Roma Tre University, Italy

Oct 2009 - May 2012

Deep Learning Nanodegree

Udacity

Jan 2018 - Present

Full Stack Web Developer

Nanodegree

Udacity

May 2016 - Sept 2016

PROJECT EXPERIENCE

Dog-Breed Classifier

github.com/saravgn/dogbreedclassifier

Designed and trained a CNN to identify dog breeds. Applied Transfer Learning to improve the model. **Keras, NumPy, VGG-16, ResNet-50, Scikit-learn**

Sentiment Classification

github.com/saravgn/sentimentclassifier

Predict sentiment from movie reviews.
NumPy, Scikit-Learn

Predicting Bike Sharing Data

github.com/saravgn/bikesharingpred

Built and trained a Neural Network from scratch to predict the number of bike-share users on a given day. **NumPy**

EXPERIENCE

Consultant / Software Engineer

Accenture

📅 Sep 2015 - Apr 2016

📍 Rome, Italy

Ministry of Economy and Finance - Indoor Navigation System

Joined Accenture as a graduate software engineer. My first role was as a part of a consulting team working with the Italian MEF (Ministry of Economy and Finance) developing an Indoor Navigation System this included producing a feasibility study evaluating cost and time

Member of in-house software development team

Joined in-house software development team working in Java and SQL for a variety of clients. My role was primarily optimising in-house process including coordinating testing activities and automating processes execution

Research Fellow

New York University

📅 Nov 2014 - May 2015

📍 New York, NY, USA

Conducted a joint research project with Full Professor Chee Yap on **autonomous navigation and mapping in GPS-denied environments**

- Designed and developed an algorithm for **drones quadcopter** on using the onboard monocular camera to automatically build a reliable map of the area in which the drone is flying. **VISUAL SLAM**.
- Designed and developed image processing APIs in C/C++ for objects recognition and used **OpenCV** (Open Source Computer Vision Library)

Software Engineering Intern

Roma Tre University

📅 Dec 2011 - May 2012

📍 Rome, Italy

Designed and implemented software for the **geolocation** of radar maps in order to individuate the composition of the underground using **Android** platform



CERTIFICATIONS AND AWARDS

- **SheHacks-Sydney 2019:** Awarded for Best DataScience App [https://www.linkedin.com/in/engsaravagnarelli/d/](https://www.linkedin.com/in/engsaravagnarelli/d/activity/) activity/
- **CLOUDERA, Data Analyst Fundamentals** of data ETL (extract, transform, load), ingestion, and processing with **Hadoop** tools and how **Pig**, **Hive**, and **Impala** improve productivity for typical analysis tasks.
- **C++ programming course**
- **Academic Language Certificates**
English: TOEFL-IELTS-PTE-BULATS-FIRST-KET-PET.
Spanish: DELE Cervantes, Camino Barcelona

LANGUAGES/HOBBIES

- 3D printing ED-209
- Arduino 4-wheel Robot
- Amazon AWS Dash Buttons

English, Italian
Spanish



Team: Volleyball, Dance, Karate
Instruments: Piano and Flute