

# SARA VAGNARELLI

## Senior Data Engineer

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## EXPERIENCE

### Senior Data Engineer

#### Deckard Technologies

📅 1 Aug 2018 - Present

📍 Sydney, Australia

Deckard Technologies designs and develops analytical reporting systems using modern deep data mining, machine learning, and predictive analytical algorithms to help cities and institutions become smarter.

- Wrote **AWS CloudFormation** scripts to build CodePipelines and stacks for DataMining on Real Estate. **AWS-CloudFormation**, **AWS-CodePipeline** for CI/CD, **AWS-CodeBuild**, **AWS-Batch**, **AWS-GLUE** for ETL, **AWS-Athena**, **Selenium**, **Scrapy**, **Jinja2**, **Python**, **PySpark**, **OpenVPN**, **Jira**, **Github**. Created **Datadog** Dashboard and Alerts through CloudFormation script to analyse **AWS-CloudWatch** log stream.
- **Developed a website** that created a unified view of output of the **data analytic processes**. This has enabled data analysts to quickly evaluate results and prove our algorithms.  
Techstack: **Python**, **Postgres**, **React**, **React Router**, **Redux**, **Axios**, **Flask**, **Memcache**, **VSCode**, **Wireframe**, **LucidChart**.
- **Contributed** to React Redux Datable library  
<https://github.com/sean-ww/react-redux-datable/graphs/contributors> relevant for our purposes.

### Software Engineer

#### Qualcomm ESGDA - Engineering Service Group Data Analytics

📅 28 Nov 2016 - 21 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](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 **Git** for Revision Control.
- Followed an agile methodology including **Sprints** and participation in weekly code reviews. Used **Jira**, **Confluence**.

## SUMMARY

*I have Bachelor's and Master's Degree in Computer Science and two years of relevant working experience as Software Engineer. I enjoy developing and experimenting with new technology and I am focused on finding the best solution for a 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](https://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](https://github.com/saravgn/sentimentclassifier)

Predict sentiment from movie reviews.  
**NumPy**, **Scikit-Learn**

### Predicting Bike Sharing Data

[github.com/saravgn/bikesharingpred](https://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

7 Sep 2015 - 30 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

### Software Engineering Intern

#### New York University

15 Nov 2014 - 15 Apr 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:** Rewarded for Best DataScience App  
[https://www.linkedin.com/in/engsaravagnarelli/d/activity/](https://www.linkedin.com/in/engsaravagnarelli/d/https://www.linkedin.com/in/engsaravagnarelli/d/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**
- Accademic Language Certificates**  
English: TOEFL-IELTS-PTE-BULATS-FIRST-KET-PET.  
Spanish: DELE Cervantes, Camino Barcelona

## LANGUAGES/HOBBIES

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

English, Italian  
Spanish



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