

## Brenton Mallen

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### Profile

Data scientist with experience in applying data processing and machine learning techniques to big data. Eclectic background provides unique perspective.

### Recent Work Experience

#### Senior Data Scientist | Distil Networks

July 2017 - Present

- Engineered both real time and batch machine learning systems to detect malicious internet traffic at a rate of 3,000 records per second with sub-minute classification latency.
- Performed ad hoc analysis and research on large datasets (hundreds of millions of records) to remain state of the art in bot detection and mitigation techniques.
- Developed tooling and microservices for team and internal customers to ease the interface with the data science team and their products.
- Develop reproducible, clean systems and research code complete with unit and integration testing and continuous integration and deployment.
- Visualize and present system efficacy and research output to both technical and non-technical audiences.
- Lead culture group that focused on building trust and promoting agile practices across engineering and leadership.

#### Data Scientist | Distil Networks

May 2015 - July 2017

- Performed machine learning research and algorithm development on web traffic to detect, classify and annihilate malicious bot activity
- Designed a bespoke AWS EMR cluster monitoring and alerting system.
- Developed streaming classification system integration tests.
- Created automated analytics tools for use by the customer success and high touch services teams.

#### Systems Engineer | Ultra Electronics - 3 Phoenix

Nov 2013 - May 2015

- Developed data analysis system architecture specifications based on defined and derived requirements.
- Produced test procedures and unit tests for a towed array sonar system.
- Performed towed array orientation and array shape estimation using accelerometer, gyro and magnetometer sensor data.

#### Systems Engineer | General Dynamics AIS

May 2012 - Nov 2013

- Technical contributor for system development and cost estimation in response to a Request for Proposal.
- Modeled acoustic propagation loss and interacted with subcontractors and vendors to design sonar sub-systems to meet system requirements.
- Produced conceptual demonstrations through the use of 3D modeling, rendering and animation to support proposal efforts.
- Supported project production efforts as well as on-site system sensor inspection.

## Technical Skills

### Data Analysis and Machine Learning:

- Random Forest, Regression, SVM, KNN, K-Means Clustering, Neural Networks, Natural Language Processing, Image Processing

### Software and Programming:

- **Languages:** Python, SQL, Matlab
- **Data Processing:** scikit-learn, numpy, scipy, pandas, sklearn, keras, nltk, streamparse, pyspark
- **AWS Infrastructure:** EMR, EC2, Lambda, DynamoDB, API Gateway, Kinesis, Athena, S3
- **Database Tools:** Hive, Impala, Presto

## Soft Skills

- Comfortable presenting to leadership and public speaking
- Able to work well in team environments
- Lead tasks with minimal oversight
- Creatively solve diverse problems
- Communicative and articulate

## Education

### Florida Atlantic University

Master of Science in Ocean Engineering

Fall 2010 - Spring 2012

### Florida Atlantic University

Bachelor of Science in Ocean Engineering

Fall 2005 - Spring 2010

## Publications & Presentations

“Proud Elastic Target Discrimination Using Low-Frequency Sonar Signatures”

*U.S. Navy Journal of Underwater Acoustics*

“Global Botnet Detector”

*PyData NYC 2015*