

## 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 a unique perspective.

### Recent Work Experience

#### Senior Data Scientist | Syngenta

Feb 2019 - Present

Architecting and building an event-driven, microservice-centric backend pipeline and API that supports both streaming and ad hoc acquisition and analysis of satellite imagery. Performed research into crop type detection using image processing and machine learning techniques, including convolutional and recurrent neural networks. Interface with the team's biggest external customer on a regular basis to discuss interfaces, future work and communicate expectations.

#### Data Scientist | Distil Networks

May 2015 - Nov 2018

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.

#### 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.

### Technical Skills

#### Data Analysis and Machine Learning:

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

#### Software and Programming:

- **Languages:** Python, SQL, Matlab, Rust
- **Data Processing:** scikit-learn, numpy, scipy, pandas, sklearn, keras, nltk, streamparse
- **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
- Able to lead tasks with minimal oversight

### Education

#### Florida Atlantic University

Master of Science in Ocean Engineering  
Bachelor of Science in Ocean Engineering

Fall 2005 - Spring 2012

### Publications & Presentations

"Proud Elastic Target Discrimination Using Low-Frequency Sonar Signatures"

*U.S. Navy Journal of Underwater Acoustics*

"Global Botnet Detector"

*PyData NYC 2015*