

# Matthew Swogger

## Data Scientist

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## SUMMARY

I'm a highly-analytical thinker and quick learner with a background in physics and probability/statistics. I enjoy building models and finding insights in data that help to make people's lives better and easier.

## SKILLS

### Models

- Linear/Logistic Regression
- A/B Testing
- Multi-Armed Bandits
- SVM
- KNN
- Random Forest
- Boosting
- K-Means
- Hierarchical Clustering
- Recommendation Systems
- Naive Bayes
- TF-IDF
- PCA
- ARIMA

### Programming and Analysis

- Python
- numpy
- matplotlib
- seaborn
- SciPy
- Pandas
- Scikit-learn
- Statsmodels
- NTLK
- BeautifulSoup
- Pymongo

### Databases

- SQL
- MongoDB

### Scalable Data Technologies

- Spark
- MapReduce

## EXPERIENCE

### **GALVANIZE Machine Learning & Data Science Fellow** Apr. 2016 - Jul. 2016 San Francisco, CA

A 13-week program consisting of 600+ hours of immersive instruction in the techniques and technologies of modern data science, covering everything from A/B testing on the conversion rate of different landing pages, to sentiment analysis using NLP, and classifying images using CNN.

#### **Capstone project: Surge Forecaster**

- App that forecasts surge pricing for ride share drivers five minutes out. Used ARIMA models at 16 locations across a section of the city. Model has 89% accuracy for entire zone.

#### **Other projects:**

- Created credit card fraud detection system with 84% precision and 91% recall.
- Built a joke recommender system using matrix factorization for collaborative filtering and content-based filtering to ameliorate cold-start issues
- Implemented churn predictor for ride-sharing company identifying primary factors behind user churn, biggest signal coming from percentage of surge rides within the first week of use.

### **US Army 82<sup>nd</sup> Airborne Division Combat Engineer** Feb. 2003 - Dec. 2005 Fort Bragg, NC

- Deployed 9 months for Operation Iraqi Freedom and Operation Enduring Freedom
- Team leader: responsible for five soldiers' daily skill training, daily physical preparedness, and safety, allowing them to realize their full potential as Paratroopers
- Managed the radio, the ordinance removal (cache of found weapons and explosives), and the infiltration of buildings in the form of door removal/'door making' for a squad of ten Paratroopers

### **All Outdoors Raft Guide** May 2008 - Aug. 2012 Lotus, CA

- Managed groups of up to 100 customers as the Raft Trip Leader on Class 4 whitewater on the Middle and South Forks of the American River
- Other duties included Medical Officer, and Swift Water Rescue Officer
- Obtained and maintained EMT, Swift Water Rescue Technician, Wilderness First Responder, and CPR certifications, allowing me to deliver the most enjoyable trip while maintaining the utmost safety possible

## EDUCATION

### **B.S. Physics** Dec. 2013 University of Nevada, Reno, NV

### **A.A. Outdoor Recreation Leadership** Dec. 2008 Feather River College, Quincy, CA

## ACTUARIAL EXAMS

Exam Financial Mathematics Oct. 23 2014  
Exam Probability and Statistics May 14 2015