

# Nathan Cornelius

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## Skills

Python, SQL, MATLAB, C, C++, LaTeX, Pandas, Numpy, Scikit-learn, Matplotlib/Seaborn

## Experience

October 2020 - November 2022

### **Verizon, Remote** – *Data Scientist*

- Developed and maintained predictive classification machine learning models to forecast outage conditions in Wide Area Networks on a link-by-link fidelity and an hour-by-hour temporal resolution with 84% precision, allowing operations engineers to preemptively identify and diagnose degrading networks for dozens of enterprise clients.
- Supported network health maintenance efforts by creating diagnostic tools based on anomaly detection methods and time series forecasting models to alarm on problematic SLA metrics in network communication devices.
- Collaborated with network engineers to develop a rule-based algorithm to correlate and reduce thousands of automatically generated WAN alarms, enabling technicians to prioritize and troubleshoot the most root cause issues.

January 2020 - May 2020

### **Insight Data Science, San Francisco** – *Data Scientist Fellow*

- Consulted for a San Francisco based SaaS company to construct a predictive random forest model from behavioral data that classified users in a free trial environment who converted to subscription customers with 88% precision.
- Leveraged scikit-learn, numpy, pandas and csv Python packages to outperform previously developed in-house heuristic models, enabling sales and marketing teams to increase free trial outreach efforts by 1.5x.

June 2018 - April 2019

### **ThoughtSpot Inc, Palo Alto** – *Technical Product Marketing Manager*

- Served as the primary marketing link between the engineering and sales teams, empowering sales with product understanding and materials to showcase a deeply technical business intelligence suite to non-technical audiences.
- Analyzed large datasets using various statistical methods to find compelling trends and narratives for sales engineers to leverage in product demonstrations shown to hundreds of current and potential customers worldwide.
- Managed the creation and maintenance of a free trial experience used by thousands of trial signups worldwide.

March 2015 - February 2018

### **Infer Inc, Mountain View** – *Senior Data Analyst*

- Built customized predictive machine learning models to enable prioritized sales team outreach using classification algorithms including Naive Bayes, Gradient Boosted Trees, Random Forest, and Logistic Regression.
- Used SQL and Python to analyze large datasets across various CRMs and derive insight into which algorithms and features best serve customer sales and marketing needs for over 100 customers.

## Research

August 2007 - January 2014

### **Cornell University, Ithaca NY** – *PhD Research (Thesis Research Advisor: Peter C. Doerschuk)*

- Developed image analysis software to determine blood flow speeds in cortical blood vessels imaged with novel microscopy techniques, achieving a tenfold increase in efficiency over previously used speed-calculation algorithms.
- Created a nonlinear time-series model describing electrical activity in a localized region of the brain and the ensuing increase in blood flow.
- Constructed a linear algebra based mathematical model used to predict time-varying blood flows in an entire large network of blood vessels based on experimental knowledge of blood flows in only a small subset of the network.

## Education

August 2007 - January 2014

### **Cornell University, Ithaca NY** – *PhD Biomedical Engineering*

October 2001 - June 2006

### **UCLA, Los Angeles CA** – *BS Electrical Engineering, BA Economics*