

# Michael L. Hutchins

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## Core Skills

### **Analytics and Statistics**

- Strong statistical knowledge including experimental design, resampling techniques, modeling, and time series analysis.
- Expertise in R, R package development, and writing clear reproducible analysis.

### **Data Science and Research**

- Experience in creating and carrying out research projects from initial concept to their intended goal.
  - Practiced at visualizing, presenting, and communicating work to internal and external teams.
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## **Data Scientist** Microsoft, January 2016 – Present

- Created and deployed production machine learning data pipelines.
- Guided internal data science teams on model development and application.

### **Action Analysis and User Segmentation**

- Used topic modelling to develop data driven user action groups across Office products.
- Created user and business profiles through collaboration with product teams.

## **Research Scientist** RootMetrics, July 2014 – January 2016

- Conducted research on using mobile phones as scientific measurement devices.
- Developed new data collection methods and software packages for Analytics and Engineering teams.

### **Ranking and Rating Systems**

- Investigated alternative ranking algorithms to improve key business products.
- Implemented the Massey ranking system and new ratings based on Markov Chains.

### **Instrument Selection**

- Conducted balanced experiments to investigate phone models for use as measurement devices.
- Selected phone models for core business operations from experiment design to final analysis.

## **Research Associate** University of Washington, Sep 2009 – June 2014

- Researched the source, propagation, and effects of lightning in the Earth-Ionosphere System.
- Designed, built, deployed, and maintained VLF radio stations for the World Wide Lightning Location Network.

### **Neural Network Based Plasma Wave Detection**

- Used a neural network based wave detector to improve an existing detection algorithm by a factor of 20.
- Created for automated filtering and detection of wave events at remote stations.

### **Lightning to Thunderstorm Clustering**

- Clustered global lightning into thunderstorms by developing a scalable implementation of DBSCAN.
- Used the new thunderstorm clusters for research and distribution to other researchers in the field.

### **Global Lightning Energy**

- Developed a graph algorithm to calibrate and measure the radiated energy of lightning with a global radio network.
  - Wrote daily processing production code for new lightning data products.
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## Education

- PhD Earth and Space Sciences, University of Washington, 2014
  - BS Physics, University of California Santa Barbara, 2009
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### **Technical Skills**

R · SQL · Scope · C# · Python · Unix/Bash · git · MATLAB · T<sub>E</sub>X