Michael Freenor

Email: michael.freenor@gmail.com

Summary

I am a data scientist specializing in generative AI, machine learning, big data analysis, algorithmic design, and causal inference. I have experience doing research both in the University (neuroscience / fMRI analysis, computational linguistics) and in industry (generative AI, machine learning focused on security, and machine learning applied to app and marketing analytics).

Relevant experience

WillowTree Apps, Charlottesville, VA   November 2016 - Present
    Director of Applied AI

    Company's subject matter expert on machine learning (both NLP and computer vision) as a Senior and then Principal Data Scientist. Involved in leading teams to implement machine learning techniques and models on relevant projects. Promoted to Director of Applied AI in the summer of 2023, and have led the Data and AI Research Team's Readiness Squad since. Readiness' mandate is to stay ahead of methodological trends and conduct novel research, addressing any gaps in understanding the company has. Readiness is currently engaged in *automated red teaming*, or getting LLM applications to attack other LLM applications for the purpose of uncovering security vulnerabilities.

University of Virginia Department of Computer Science   Spring 2018, Spring 2019
    Lecturer

    Designed and taught the undergraduate course on Artificial Intelligence offered through the CS department. Had roughly a hundred students per semester. Covered both symbolic AI (including mathematical logic and game theory), and touched upon topics in applied statistics and machine learning. Ended each semester with a generative art project.

Digital Turbine, Durham, NC   October 2015 - September 2016
    Data Scientist

    Worked on a combination of predictive modeling and research into effectiveness (for various regressors predicting ad conversion rates), including a collaborative filtering system that could serve as a basis for probabilistic inference. Developed methodology for A/B testing and marketing reports on conversion lift and ad effectiveness (in a real time bidding environment). Frequently worked with sales and product managers to determine the value of particular data and general market strategy.

Distil Networks, Arlington, VA   Summer 2013 - August 2015
    Senior Data Scientist

Responsible for researching and developing a classification system to strain out bad bots (malicious automated agents) from normal web traffic. Mainly working between Hive and Hadoop (deployed on Amazon AWS) and ipython / pylab. System was able to parse and classify web logs nearly real-time for high throughput (greater than 50K queries per second). Also responsible for sales / marketing reporting and assisting support / engineering with various data analysis related tasks.

Carnegie Mellon University, Pittsburgh, PA   August 2009 - July 2010
    Research Programmer
       Helped develop graphical models and learning algorithms to extract causal information from neuroimaging data (e.g. fMRI).

Education

MS	Carnegie Mellon University:	Logic, Computation and Methodology
	Thesis:	"A computational theory of pragmatic implicature"
	Graduation date:	May 2009
BS	North Carolina State:	Philosophy
	Graduation date:	May 2007
BS	North Carolina State:	Computer Science
	Graduation Date:	May 2005