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Yuchao Jiang

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Objective:
Self-motivated Ph.D. with extensive data analytical and machine learning experience who leverages physical and computational thinking to solve real-world problems.

Skills & Knowledge

- Programming languages: Python, Matlab, JavaScript, C++, R, SQL, NoSQL
- Expert in Python libraries: NumPy, Matplotlib, Seaborn, scikit-learn, and TensorFlow
- Frequent user of JavaScript libraries: jQuery, D3, Dimple, Plotly
- Extensive experience with machine learning, deep learning and artificial intelligence
- Good at data wrangling, principle component analysis and data visualization

Project Experiences

Software Architect, Exaptive, Oklahoma City, OK   Feb. 2017

Exaptive is a start-up company that provides a web-based platform to empower data scientists. I examined the platform in depth and communicated my insights with the VP services for better decision-making. I wrote clean, easy-to-maintain JavaScript codes that significantly improved the productivity of full-stack developers and end users for web-based data visualization.

Machine Learning Engineer, Udacity (online education)   Aug. 2016 to Jan. 2017

I quickly picked up the latest data technologies and dived into Udacity's flagship programs such as self-driving cars. I worked on extensive course projects by applying cutting-edge algorithms such as supervised learning, unsupervised learning, reinforcement learning and deep learning. Specifically, I have used machine-learning models for predictions on bike-share demands and housing price, image recognition on digits and letters, and nature language processing.

Research Assistant, University of Oklahoma, Norman, OK   Aug. 2010 to May 2016

Interband cascade laser is a highly efficient infrared laser that enabled the Mars rover Curiosity to achieve one of the top 3 discoveries – the existence of Methane. I did my doctoral research with the inventor of this laser and brought its performance to a new level. It was a large project including idea prototyping, material growth, clean-room fabrication and device testing. For my part, I used physical optics and quantum mechanics to design the layer structures of the laser. I wrote Matlab codes to carry out extensive numerical modeling and came out cost-effective solutions. One of my results caught the attention of Nature Magazine and was reported as "research highlight".

I have been a reviewer for 4 high-impact journals including Applied Physics Letters. I have co-authored 15 peer-reviewed papers with total citations over 100 times and currently hold 2 patents on laser technologies. I also gave 2 oral presentations at Conference on Lasers and Electro-Optics (San Jose, CA) in 2012 & 2015.

Education

- **Nanodegree, Machine Learning Engineer**, Udacity   Jan. 2017
- **Ph.D., Electrical and Computer Engineering**, University of Oklahoma, Norman, OK   May 2016

Dissertation: "High-performance InAs-based interband cascade lasers"