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# Fu-Chang Sun



## Summary

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Aspiring Data Scientist who converts data into insights supported by statistical evidence using machine learning techniques. Qualifications include 5+ years research experience, data analysis and visualization, coding proficiency, mathematical background, proven interpersonal skills, and ability of collaboration.

## Education

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<b>Doctor of Philosophy</b> in Physics	May 2017
University of Connecticut (UConn), Storrs, CT	
<b>Master of Science</b> in Physics	January 2010
University at Buffalo (UB), Amherst, NY	
<b>Bachelor of Science</b> in Math and Physics (Double Major)	June 2006
National Cheng Kung University (NCKU), Tainan, Taiwan	

## Technical Skills

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- Shell Scripting, Python, pandas, Scikit-Learn, Machine Learning, Data Visualization, Statistical Modeling, SQL, Plotly, C/C++ , Matlab, Unix, Hadoop, MapReduce, Spark

## Project Experience

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<b>Capstone Project of Nanodegree Program</b> at Udacity	in progress
<ul style="list-style-type: none"><li>• Use recommendation technique by collaborative filtering, content-based filtering, and neural net approaches to answer "Which products will a consumer purchase again?"</li></ul>	
<b>Machine Learning Nanodegree Program</b> at Udacity	August 2017
<ul style="list-style-type: none"><li>• Applied statistical analysis tools to predict housing prices and evaluate the predictive model by grid search technique to optimize a learning algorithm</li><li>• Utilized supervised learning models such as Decision Trees, SVMs, Neural Networks to target potential financial contributor using relational database</li><li>• Identified patterns and structures in unlabeled data of wholesale distributor's service using unsupervised learning technique and unveil its clustering for new prediction</li><li>• Implemented reinforcement learning algorithm (Q-learning) for optimal decision and convolutional neural networks for image classification</li></ul>	
<b>Materials Hackathon (MatHack)</b> at MRS Fall Meeting & Exhibit	December 2015
<ul style="list-style-type: none"><li>• Received the <i>Third Place of Materials Hackathon</i> by automatically collecting materials crystallographic data from multiple databases</li><li>• Awarded as <i>Special Prize for Materials Data Challenge</i> by sustainable and extensible research project embedding in the commercialized server</li></ul>	

## Work Experience

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<b>Research Assistant</b>	September 2013 – January 2017
Department of Materials Science & Engineering, UConn	
<ul style="list-style-type: none"><li>• Conducted and published scientific research on ferroelectric materials using computational modeling in quantum, classical, and continuum time and length scale</li><li>• Designed the model and analyzed the simulation results of ferroelectric devices with different stacking geometry to explain experiment observation</li></ul>	
<b>Lab Instructor, Teaching Assistant</b>	September 2010 – May 2013
Department of Physics, UConn	
<ul style="list-style-type: none"><li>• Motivated student engagement by creating in-class activities and prompting discussions</li><li>• Encouraged students to develop critical thinking skills with various experiment setup</li></ul>	