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# Fu-Chang Sun

udothemath1984.github.io/
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## Education

**Doctor of Philosophy** in Physics — May 2017
University of Connecticut (UCONN), Storrs, CT

**Master of Science** in Physics — January 2010
University at Buffalo (UB), Amherst, NY

**Bachelor of Science** in Math and Physics (Double Major) — June 2006
National Cheng Kung University (NCKU), Tainan, Taiwan

## Technical Skills

- Shell Scripting, Python, pandas, C/C++, Git/GitHub, Hadoop, MapReduce, tensorflow, SQL, Unix, LaTeX

## Project Experience

**Machine Learning Nanodegree Program** at Udacity — in progress

- Apply statistical analysis tools to predict housing prices and evaluate the predictive model
- Utilize supervised learning models such as Decision Trees, SVMs, Neural Networks to target potential financial contributor using relational database
- Identify patterns and structures in unlabeled data of wholesale distributor's service using unsupervised learning technique and unveil its clustering for new prediction
- Implement reinforcement learning algorithm (Q-learning) to obtain optimal decision
- Construct convolutional neural networks (CNN) using tensorflow for image classification

**Materials Hackathon (MatHack)** at MRS Fall Meeting & Exhibit — December 2015

- Received the *Third Place of Materials Hackathon* by automatically collecting materials crystallographic data from multiple databases
- Awarded as *Special Prize for Materials Data Challenge* by sustainable and extensible research project embedding in the commercialized server

## Work Experience

**Research Assistant** — September 2013 – January 2017
Department of Materials Science & Engineering, UCONN

- Conducted and published scientific research in multi time and length scale domain
- Analyzed the computational results through theoretical modeling and statistical evidence

**Lab Instructor, Teaching Assistant** — September 2010 – May 2013
Department of Physics, UCONN

- Motivated student engagement by creating in-class activities and prompting discussions
- Encouraged students to develop critical thinking skills with various experiment setup

**Educational Volunteer** — June 2013 – August 2013
Department of Physics, UCONN

- Redesigned lab activities and instructions to improve students' conceptual understanding
- Participated and provided feedback about new content in the weekly revision meetings