

# Michael Wang

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317-341-5286

michaelwang.codes

## EDUCATION

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- **Purdue University** West Lafayette, IN  
*Master of Science in Industrial Engineering & Operations Research; GPA: 3.94* May 2019 – Aug 2020  
Relevant Courses: Deep Learning & Computer Vision, Statistics, Data Engineering
- **Purdue University** West Lafayette, IN  
*Bachelor of Science in Industrial Engineering; GPA: 3.94* May 2016 – Dec 2018

## EXPERIENCE

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- **NASA Langley Research Center** Hampton, VA  
*Software Engineering Intern* Jan 2019 - May 2019
  - Increased efficiency of machine learning software by 20% with mpi4py and high-performance computing resources.
  - Independently developed the Python package ViPrPy (Visualizing Probability with Python).
  - Practiced test-driven development and Clean Code principles in a major refactor of NASA code for crack diagnosis.
- **Purdue University** West Lafayette, IN  
*Research and Teaching Assistant* Dec 2016 - Present
  - **Research Assistant - CONNplexity Lab:** Utilize PCA, deep learning, clustering, and genetic programming to maximize subject-level identifiability and explore patterns in fMRI brain connectivity data.
  - **Teaching Assistant - MATLAB:** Performed live code demonstrations, addressed student questions, and provided meaningful feedback to facilitate learning in a class of 120 undergraduate students.
- **Meijer** Grand Rapids, MI  
*Labor Analytics Intern* May 2018 - Aug 2018
  - Implemented data-driven solutions to the front-end checkout that save \$3.6 million per year across 242 stores.
  - Automated labor department's frequently-used manual processes by creating custom macros in VBA.
- **Summer Undergraduate Research Fellowship** West Lafayette, IN  
*Research Fellow* May 2017 - Aug 2017
  - Trained machine learning model that predicts attention span given subject's resting-state fMRI data.
  - Presented research project in a symposium with an audience of over 50 students and faculty.

## PROJECTS

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- **Deep Learning for Brain Scan Classification** Jan 2020 - Present
  - Build a CNN architecture with PyTorch to classify fMRI brain scans into 8 task labels with 96% test accuracy.
  - Design optimal workflow for fMRI predictive modeling including data regularization, PCA, and algorithm selection.
- **Credit Card Combination Optimizer** Feb 2020 - Mar 2020
  - Developed a tool in Python to return the credit card spread that maximizes cash back given monthly spending.
  - Created a web application in Flask with a streamlined user interface to offer card recommendations to the public.
- **Pandemic Disease Spread Mitigation** Aug 2017 - Dec 2017
  - Synthesized population of 100,000+ individuals based on public demographic data with a Monte Carlo simulation.
  - Simulated 100-day disease spread with MCMC methods in R and identified optimal policies with decision trees.

## AWARDS

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- Bob and Ellie Shadley Scholarship in Industrial Engineering
- Purdue Summer Undergraduate Research Fellowship
- Dean's List for all semesters
- Phi Beta Kappa

## SKILLS & MISCELLANEOUS

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- Python, MATLAB, R (proficient)
- SQL, Julia, MS Excel (intermediate)
- Git, Linux, MPI, TDD, GCP, Tableau
- English, Mandarin (native)
- eSports competitor & Tournament Organizer
- Ironman Triathlon 70.3 Finisher