

## Zhuyun (Maggie) Xiao

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## EDUCATION

**UCLA****MS & PH.D. IN ELECTRICAL & COMPUTER ENGINEERING**

Dec 2021 | Los Angeles, CA

School of Engineering

Distinguished Masters Thesis

Outstanding Master's Student

GPA: 3.95 / 4.0

**BRYN MAWR COLLEGE****BA IN PHYSICS,****MINOR: COMPUTER SCIENCE**

May 2015 | Bryn Mawr, PA

Magna Cum Laude, Honors

Cum. GPA: 3.86 / 4.0

Major GPA: 4.0 / 4.0

## SPECIALIZATION

Machine Learning

Data Science

Natural Language Processing

Computer Vision

Reinforcement Learning

Applied Statistics

## COURSEWORK

**GRADUATE**

Statistical Machine Learning (A+)

Large-Scale Social/ Complex Network (A+)

Natural Language Processing

Neural Network &amp; Deep Learning

Large-Scale Data Mining

Computational Robotics

Digital Image Processing

Computer Vision (Udacity Nanodegree)

Matrix Analysis

## SKILLS

**PROGRAMMING**

Python • Java • Matlab • Swift • R • SQL

• C • HTML/CSS

**FRAMEWORK/TOOLS**

PyTorch • Spark&amp;MLlib • TensorFlow •

Scikit-Learn • Pandas • OpenCV • Flask •

Azure • AWS • Docker • Heroku • GPU

## PUBLICATIONS

📄 Authored 9 publications (1st author for 6) in peer-reviewed journals; 3 more under review

## HONOR &amp; AWARDS

2019 1<sup>st</sup>/500

Best Presentation Award, IEEE Intermag Conference

2018 8/500

Best Paper Finalist, PowerMEMS Conference

2018 10 Worldwide

Doctoral Fellowship in Residence, Berkeley National Lab

2017 1/2000

Edward K. Rice Outstanding Master's Student, UCLA

## EXPERIENCE / RELEVANT PROJECTS

**FELLOW, DATA INCUBATOR** 🌐 | PYTHON, SQL, SPARK/ML, TENSORFLOW

June 2020 - August 2020 | San Francisco, CA

- Selected as 20 out of 3000+ applicants with graduate degree to be a Fellow
- Expedited Stack Overflow Posts analysis (10GB) with Apache Spark. Performed machine learning on vectorized text data from Spark ML, trained a learner to predict question tags from text
- Devised and assembled a SQL database of historical restaurant inspections
- Created a web app (link) on Flask server for food recipe recommendations (NLP-based). Voted as one of the **top Capstone projects**

**COMPUTER VISION & ROBOTICS** 🌐 | PYTHON, PYTORCH, OPENCV

June 2019 - Present | Los Angeles, CA

- Constructed a Facial Keypoint Detection System with Haar Cascades & CNN
- Performed image captioning using CNN-RNN on the MS COCO dataset
- Fine-tuned U-Net++ to segment and incorporated ESRGAN to enhance the resolution of X-ray magnetic images. Manuscript in Preparation
- Collaborated on the robotics research project "Simultaneous Control and Mapping for Path Planning, and Localization" integrating Model Predictive Control, SLAM algorithms, and Neural Network
- Implemented Rapidly-expanding Random Tree algorithm for Robot Path Planning & Kalman Filtering for State Estimation

**DATA MINING & LARGE-SCALE NETWORKS** 🌐 | PYTHON, SCIKIT-LEARN

March 2020 - June 2020 | Los Angeles, CA

- Increased accuracy of NY Social Graph reconstruction by 10% by improving quality of web-scraped photo captions
- Accomplished RSME reduction by 40 % with neural network versus ensemble method to predict Twitter activity with machine learning

**NLP PROJECTS** 🌐 | PYTORCH, TENSORFLOW, SCIKIT-LEARN

Jan 2020 - Aug 2020 | Los Angeles, CA &amp; San Francisco, CA

- Led the development of an automated speech writer by extracting summaries and tone from speeches; improved perplexity score from 22 to 18 by fine-tuning the GPT-2 model
- Built pipelines and trained estimators to predict star ratings from unstructured Yelp Review Data, including n-gram model. Successfully extracted top food bigrams in restaurant reviews after Bayesian smoothing

**MOBILE APP DEVELOPMENT** 🌐 | SWIFT, ANDROID STUDIO

Spring 2015, Fall 2020 | Philadelphia, PA &amp; Los Angeles, CA

- Developed Movie Search App, Twitter-like App and Instagram-like App on iOS
- Spearheaded an Android Health App "YHEP-PrEP" within a team of three

## EXTRACURRICULAR ACTIVITIES

Piloted LA High School outreach program (1000+ students); Mentored 9 underrepresented students on research (2018-2020); President of Society of Physics Students (2014-2015); Leadership Development Program Coordinator (2012-2013)