

Enhao Zhang

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Education

- **University of Michigan** Ann Arbor, MI
Bachelor of Science Engineering in Computer Science *Sept. 2018 – Present (expected Apr. 2020)*
 - Overall GPA: 4.00/4.00
 - Advisors: Prof. [Michael Cafarella](#) and Prof. [Nikola Banovic](#)
 - Core Courses: Machine Learning (A), Database Management System (A+), Computer Security (A), Algorithms and Data Structures (A+), Computer Organization (A+), Operating System, Deep Learning for Vision.
- **Shanghai Jiao Tong University** Shanghai, China
Bachelor of Science in Electrical and Computer Engineering *Sept. 2015 – Present (expected Aug. 2020)*
 - Overall GPA: 3.98/4.00 (**Ranking: 1st/202**)
 - Core Courses: Linear Algebra (A+), Probabilistic Methods in Eng. (A+), Discrete Math (A+), Honors Calculus (A+), Programming & Data Structures (A+)

Honors and Awards

- **Undergraduate National Scholarship** (Top 7 students in Joint Institute), Ministry of Education of People's Republic of China, 2016
- **Distinguished Academic Achievement Award** ([🔗 Link](#)) (Academic performance in the top 2% of class), Joint Institute, Shanghai Jiao Tong University, 2016
- **Interdisciplinary Contest in Modeling**, Honorable Mention, 2017
- **Overall GPA Ranking Top 1 out of 202** ([🔗 Link](#)), Joint Institute, Shanghai Jiao Tong University, 2015 – 2017.
- **Cheng Family Scholarship** (Only 2 UM-SJTU dual degree students annually), Joint Institute, Shanghai Jiao Tong University, 2018

Research Experience

- **GAN as an Art Material** Ann Arbor, MI
Advised by Professor Nikola Banovic *Sep. 2019 – Present*
 - Design a new photorealistic image composing platform which gives users more controls over the generated image, utilizing sketch classification and the BigGAN model.
- **Video Database Analytics System** Ann Arbor, MI
Advised by Professor Michael Cafarella *May. 2019 – Present*
 - Researched and optimized a video database system supporting binary content-based queries, by constructing CNN classifier cascades in replace of the complex user-supplied classifier and constructing a multiresolution video dataset from the original dataset.
 - Tested the database system on a dashcam dataset and achieved 5x speedup with 5% accuracy tradeoff.
 - Implemented a graphical user interface using streamlit for the system.

- **Economic Product Price Prediction**

Advised by Professor Michael Cafarella

Ann Arbor, MI

May. 2019 – Present

- Predicted prices of economic products, from highly imbalanced dataset, based on product descriptions that were not human interpretable and category names.
- Preprocessed and cleaned data with inconsistent quality; explored different bin ranges for each category.
- Built and fine-tuned a price predictor using LSTM for each category, with 82 categories in total.

- **Study of Personalized Active Learning**

Advised by Professor Nikola Banovic

Ann Arbor, MI

Jan. 2019 – Nov. 2019

- Investigated user-computer interaction in machine learning algorithms, where user provides labelled information to machine-end and machine learning method realizes user personalization.
- Designed and developed a query-based image retrieval system using active learning strategies with various functionalities, including extracting photos from user's social media account, querying images and updating alternate texts.

Project Experience

- **Substring-Searchable Symmetric Encryption**

Mar. 2019 – Apr. 2019

- Investigated a modern searchable encryption scheme used for databases by analyzing its security properties and potential security issues due to cryptographic implementations.
- Simulated a client-and-server interaction where client queries a string and server returns the result using substring-searchable symmetric encryption scheme. ([🔗 Link](#))

- **Spherical Following Robot** (Patent: CN108297108A)

Nov. 2016 – Nov. 2017

- Proposed a spherical following robot equipped with multi-microphone annular array that realized sound source localization in a household environment, based on Time Difference of Arrival (TDOA) sound locating method. ([🔗 Link](#))

- **High-Speed Photography Assistant**

Jun. 2016 – Aug. 2016

- Proposed an affordable and multifunctional Arduino-based device to shoot high-speed photographs of water droplets. ([🔗 Link](#))
- Led the team and won **Best Technology Award** out of 40 competing teams in the design expo.
- Gave presentation at the 2016 JI Open Day as the only freshman team.

Tutoring Experience

- **TA for VY100 – Academic Writing I**, instructed by Cynthia Vagenitti, SJTU

Fall 2016

- **TA for VY200 – Academic Writing II**, instructed by Cynthia Vagenitti, SJTU

Spring 2017

- **Grader for EECS 370 – Intro. to Computer Organization**

Winter 2019

Extracurricular Activities

- **Media Department of the Student Union**, Vice Director

Aug. 2016 – Apr. 2017

Skills

- **Language:** Mandarin (Native), English (TOEFL iBT: R29+L27+S24+W28, GRE: V163+Q167+AW4)

- **Computer:** Python, C/C++, SQL, HTML, JavaScript, MATLAB, Verilog HDL