Enhao Zhang

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Education

- **University of Michigan**   Ann Arbor, MI
  Bachelor of 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 Electrical and Computer Engineering   *Sept. 2015 – Present (expected Aug. 2020)*
  - Overall GPA: 3.98/4.00 **(Ranking: 1st/202)**
  - Vice Director of Media Department of the Student Union
  - Teaching Assistant for VY100 (Academic Writing I), VY200 (Academic Writing II)

Honors and Awards

- **Undergraduate National Scholarship** (Top 7 students in Joint Institute), Ministry of Education of P.R.China, 2016

- **Distinguished Academic Achievement Award** (☞ Link) (To students whose academic performance is on the top 2%), 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

- **Study of Personalized Active Learning**
  Advised by Professor Nikola Banovic   *Jan. 2019 – Present*
  - Investigate user-computer interaction in the machine learning algorithms, where user provides labelled information to machine-end and machine learning method realizes personalization for user.
  - Design and develop 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 alt texts.
  - Paper in preparation for IMWUT 2020.

- **Video Database Analytics System**
  Advised by Professor Michael Cafarella   *May. 2019 – Present*
  - Research and optimize a video database system which supports binary content-based queries, by constructing CNN classifier cascades in replace of the complex user-supplied classifier.
  - Test the database system on a dashcam dataset and achieve 5x speedup with 5% accuracy tradeoff.

- **Economic Product Price Prediction**
  Advised by Professor Michael Cafarella   *May. 2019 – Present*
  - Predict prices of economic products, from highly imbalanced dataset, based on product descriptions that are not human interpretable and category names.
  - Build a price predictor using LSTM and transfer learning with "near accuracy" of 75% and average absolute error of 6 dollars per product, including preprocessing and cleaning of data with variously inconsistent quality.

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 realizes sound source localization in household environment, based on Time Difference of Arrival (TDOA) sound locating method.

- **High-Speed Photography Assistant**   Jun. 2016 – Aug. 2016
  - Proposed an affordable and multifunctional Arduino-based device to shoot high-speed photographs of water droplets.
  - Won **Best Technology Award** among 40 teams in the design expo.
  - Gave presentation at the 2016 JI Open Day as the only freshman team.

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