Kexin Zhu

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Education

University of Pennsylvania *May 2020*
Master of Science in Engineering: Computer & Information Science
Cumulative GPA: 3.53/4.0

Rensselaer Polytechnic Institute *May 2018*
Bachelor of Science: Computer Science dual Mathematics
Cumulative GPA: 3.97/4.0 (Summa Cum laude)

Coursework/Skills

Advanced Mathematics& Statistics: Linear Algebra, Mathematical Statistics, Mathematical Models of Operation Research, Computational Optimization
Advanced Computer Science: Software Systems, Database & Info Systems, Big Data Analytics, Operating System, Machine Learning, Intro to Artificial Intelligence , Programming Language, Natural Language Processing
Programming: Proficient in C/C++, Python, SQL, Java, Matlab, MongoDB, Neo4j, R, Haskell, Prolog

Selected Projects

PennCloud (C/C++) *Oct-Dec. 2018*
- Built a cloud platform with its webmail and storage service, analogous to Gmail and Google Drive
- A set of frontend servers can be accessed with browsers and users are able to interact with the services
- A distributed storage system in the backend, home to storage of all state and key-value store abstractions, is built to guarantee the consistency of storage by achieving load balancing and fault tolerance

Food for thought (Full stack) *Oct-Dec. 2018*
- Developed a webpage which recommends Airbnb homes in NYC to users based on their food preference and food options in the neighborhoods, with data from Airbnb and Yelp, stored on cloud hosting (AWS)
- Users are able to customize their home preferences, including price range and choice of neighborhood
- Results are shown on Google Maps, where users are able to be directed to webpages of the Airbnb homes, as well as nearby restaurants. Altogether, users can integrate food and homes into plans, and bookmark them in their accounts

Image-News Matching System (Python) *Feb-May. 2018*
- Developed a system that can be used to match news story and news photos
- Used TF-IDF (Term Frequency Inverse Document Frequency) to extract best selections of key phrases to describe the news and
- Matched the results of photos and news stories via image captioning, as well as key phrase extraction

Image Inpainting (Matlab) *Feb-May. 2017*
- Reconstructed contaminated images with ADMM (Alternating Direction Method of Multipliers)
- Transformed a contaminated image with characters on it to a full image using computational optimization to recover pixels in the characters

Research

Iris Recognition (Python) *July-Aug. 2018*
- Given an eye image, extracted the iris section and compared with original iris data to verify user identity
- Used traditional computer vision method to recognize and capture the Iris from eye images
- Removed noises, such as reflection in pupils and glasses by distinguishing relative pixel color

Professional Experience

Undergraduate Teaching Assistant: Intro to Algorithm, Mathematical Statistics, Foundations of Computer Science and Beginning Prog for Engineers