JING JIANG

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EDUCATION

Northwestern University, Evanston, IL

Master of Science in Computer Science 9/2020 – Expected 12/2021

- Relevant Coursework: Human Computer Interaction, Data Science

The Cooper Union for the Advancement of Science and Art, New York, NY

Bachelor of Engineering in Electrical Engineering 9/2016 – 5/2020

- Minor: Computer Science
- Relevant Coursework: Data Structures and Algorithms, Software Engineering, Computer Graphics, Deep Learning

WORK EXPERIENCE

JSTI Group, Project Management Intern, Nanjing, China 6/2019 – 7/2019

- Helped manage and analyze the lifecycle for projects in JSTI.
- Worked on the user group analysis in a project that optimizes the selection of resumes of applicants to JSTI.
- Researched and provided insights on the system architecture of a text-based big-data platform project that collects information of online tender invitations.

The Cooper Union DIAL Lab, Research Assistant, New York, NY 10/2018 – 8/2019

- Researched on the topic of using distributed **Reinforcement Learning** to optimize traffic networks at the Cooper Union's Distributed Intelligent Agent Lab.
- Designed a network of smart agents with meta-level control layer. The smart agents are able to use **Q-learning** Algorithm to calculate the reward from the environmental traffic latencies and then make policy update according to their actions.

PROJECTS

Tempo: A Pomodoro Studying App with Gamification 9/2020 - 12/2020

- Following **Agile Development** approaches, developed a smartphone application that features Pomodoro studying techniques, with gamification that enables users to collect animated fish as rewards when they finish studying cycles.
- Worked on a branch that features the function of adding friends. Completed unit testing and integration testing.
- Used **React Native** as framework, together with **Expo**. Used **Google Firebase** for user authentication and database.

Navigational Augmented Reality Goggles 1/2020 – 5/2020

- Worked in a team of 4 to build a pair of Augmented Reality goggles capable of showing navigational instructions.
- Achieved Augmented Reality on a pair of goggles using a display, a magnification lens, and a beam splitter.
- Implemented the navigational instruction using Google Places and Directions API. Used **ARCore** to build AR interface for the display.
- Tested and observed an averaged 20% saving of time compared to using navigation apps on smartphones.

Recreate-Manhattan: Reimagine a City using Deep Learning 1/2020 – 5/2020

- Curated a dataset consisting of 400 trios of images containing outline, layout, and depth information of the city blocks in Manhattan.
- Used the city block depth dataset as ground truth and trained a **Pix2Pix** Generative Adversarial Networks model that can generate new depth maps given customized block layout inputs.
- Applied this model on various geometric styles to convey innovative concepts of modern architecture and city planning. Set up pin-ups and virtual gallery to present the result to architect juries from different backgrounds.
- The website for this project is: **https://recreate-manhattan.jiangjing.io**

Multimodal Story Generation on Plural Images 9/2019 - 12/2019

- Independently designed and implemented a multimodal deep learning model that can generate a paragraph of story using extracted features from multiple input images.
- This model has a three-step architecture: the image captioner, relational data generator, and text generator. Used **Show, Attend, and Tell** Algorithm to implement the image captioner, and **GPT-2** model for the text generator.
- Designed a relational data generation algorithm that takes the extracted features from the image captioner model as inputs and generates SVO sentences to be used as training data or prompt for the text generation model.

SKILLS

Languages: Python, JavaScript/HTML/CSS, Java, C/C++, Swift, SQL, GoLang, TypeScript

Frameworks: TensorFlow, PyTorch, NodeJS, React, React Native, Vue.js

Tools: Visual Studio Code, Jupyter Notebook, IntelliJ, DataGrip, PyCharm, Expo