Ruolin Qu

github.com/RuolinQu quruolin95@gmail.com
Piscataway, New Jersy (732)-516-8047

EDUCATION

Rutgers University *Sep 2018 - May 2021(expected)*
GPA:3.77/4.0
Master of Computer Engineering

University of Electronic Science and Technology of China, China *Sep 2014 - Jul 2018*
Bachelor of Applied Physics

SKILLS

Programming Language:	Python, JavaScript, C++/C, HTML, CSS, SQL
Frontend :	React/Hooks,TypeScript, react-router, Redux, AJAX, SASS, Vue.js
Backend :	Node.js, Koa, Flask, RESTful
Software & Tools:	MySQL, Git, npm, Unity

PROJECTS (ALL AVAILABLE IN GITHUB)

Full Stack Blog Management Platform (React, Node.js, MySQL, RESTful) *Jan 2020 - Apr 2020*
- Developed a full stack blog management system application in which users can modify, organize and display blogs.
- Designed and Optimized the frontend with **React.js/ CSS/HTML5**, improving the page load speed by **30%**.
- Implemented the backend with **Node.js/Koa**, used **MySQL** as database to store the articles and users' information.
-Utilized **RESTful API** for connecting the backend and frontend which allows users perform basic **CRUD** (create, read, update, delete) functions on article management.
-Deployed the project on **Alibaba Cloud**. Please visit http://47.90.215.218:3000 for more details.

Bomber UI Library (React Hooks, Typescript, Unit Testing, CI/CD) *Jan 2020 - Jun 2020*
- Built a **React** UI library contains a set of components for building rich, interactive user interfaces.
- Based on new attributes in React, **Hooks**, improved and consummated high quality functional components. Implemented components includes input, auto-complete, menu, etc.
-Written in **TypeScript** with predictable static types, avoiding the constrained of dynamic language.
-Utilized **Jest framework** for **unit testing**. The whole project was deployed on **travis CI** for continuous integration. The **CI/CD** workflows helps in debugging and merging components into master branch efficiently.

Colorization (Python, Machine Learning, ANN, CNN) *Sep 2019 - Dec 2019*
- Designed and developed a hand-coded **ANN**-based (**Numpy**) Algorithm to colorize the gray-scale figures coded in **Python**. Based on RGB to Lab theory, revised and minimized the loss for pixels in regression progress.
- Implemented the **CNN** network including convolutional layer, pooling layer, fully-connected layer, promoted the performance with lower loss. Reduced the overall lose by seven times comparing to the naive approach.

RESEARCH EXPERIENCE AND AWARD

Research Thesis: Muti-agents Games based on RL and GAIL *Sep 2019 - Aug 2020*
- Set up a reasonable enclosed environment where the agents play a competitive game with some interactive objects in **Unity** coded in **C#**.
- Combined deep reinforcement learning algorithm with imitation learning. Developed hand-coded **Python** neural network basd on **Unity ML-toolkits** and **TensorFlow** to train our AI agents acquiring emergent strategies.
-Implemented and optimized **Generative Adversarial Imitation Learning** algorithm for Muti-agents. Improved pre-trained agents models according to experts input data to avoid typical sparse award problem.

Award *Feb 2017 - Feb 2019*
- The second price in Southwestern ACM Collegiate Programming Contest.
- The third prize in Collegiate Electronic Design Contest in UESTC.