

Shuze Liu

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Education

Yale University

May 2020

M.S. , Computer Science

Rensselaer Polytechnic Institute

May 2019

B.S. , Computer Science

Cumulative GPA: **4.0/4.0** (Summa Cum Laude)

Advanced Courses & Teaching

Programming Courses: Software Engineering, Software Development & Documentation, Operating Systems, Programming Languages, Principle of Software, Compiler Principles, Database Systems, Object-Oriented Programming.

AI & Theory Courses: Deep Learning, Artificial Intelligence, Computational Intelligence for Games, Graph Theory, Computability and Logic, Advanced Computer Algorithms.

Undergraduate Teaching Assistant: Intro. to Algorithms (Spring 2019), Intro. to Logic (Fall 2018)

Experience

Alibaba Group

June 2019 – Aug. 2019

Algorithm Engineer Intern

Hangzhou, China

- Developed a program in Python to test the actual performance of twelve convolutional neural networks on the server.
- Implemented ShuffleNet v2 by MxNet in Python. Trained this neural network on clothing pictures.
- Achieved 91.8 % accuracy on clothing classification problem by tuning the hyperparameters.
- Developed an API for this network to allow the City Brain project to input any size of pictures and get their labels.

Strengthening Blockchain Code to Handle Unexpected Situations

May 2018 – May 2019

Undergraduate Researcher (Project funded by IBM)

Troy, New York

- Designed and developed a decentralized course selection system on the blockchain platform, Hyperledger Composer in Javascript.
- Designed a voting mechanism with an action list to handle unexpected situations in blockchain code.
- Augmented this mechanism with generic principles. Created generic APIs for incoming blockchain code.
- Implemented a preprocessor in C++ to parse incoming blockchain code and automatically decorate the chaincode with the above design.

Publication

- **Shuze Liu**, Farhad Mohsin, Oshani Seneviratne, Lirong Xia. Strengthening Smart Contracts to Handle Unexpected Situations. **Published on IEEE International Conference on Decentralized Applications and Infrastructures.** [\[Link\]](#) [\[PDF\]](#)

Selected Projects

Artificial Intelligence in Pac-Man (Python)

Jan. 2019 – May 2019

- Developed informed search algorithms to help Pac-man find food dots. Designed heuristics to increase efficiency.
- Abstracted and implemented game states in multi-agent Pac-Man games. Developed Minimax and Expectimax algorithms to optimize scores.
- Developed q-learning, a reinforcement algorithm to learn the optimal strategy for Pac-Man.
- Implemented observe and elapsedTime functions to make inferences of ghost positions by Bayesian Networks.

GoSki (iOS app)

Jan. 2019 – May 2019

- Developed an iOS app to gather ski mountain information and to provide tutorials for skiers.
- Managed team to follow Agile software development principles. Ensured on-time delivery.
- Wrote corresponding documentation for each Sprint and Release.
- Designed the database schema in Firebase to store users' accounts and summarized mountain information.

Skills

- Programming Languages: Python, C/C++, Java, Javascript, SQL, Pascal, Prolog, Scheme.
- Frameworks: TensorFlow, MxNet, Pytorch, Hyperledger Composer, LaTeX, Hugo.