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, Randomized 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*
- 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 strengthen 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

Target CS graduate schools (Android App) *Aug. 2019 – Sep. 2019*
- Developed an Android App to show universities' rankings, strong areas, and application deadlines.
- Implemented functions to allow users to choose target graduate schools and customize notes.
- Implemented a feature to draw target universities' locations in a map.

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 game states in multi-agent Pac-Man games. Implemented Bayesian Networks to infer agents' positions.
- Developed q-learning, a reinforcement algorithm to learn the optimal strategy for Pac-Man.

GoSki (iOS App) *Jan. 2019 – May 2019*
- Developed an iOS app to gather ski mountain information and to provide tutorials for skiers.
- Wrote corresponding documentation and tested functions in each Sprint and Release.
- Managed team to follow Agile software development principles. Ensured on-time delivery.

Skills

- Programming Languages: Python, C/C++, Java, Javascript, SQL, Pascal, Prolog, Scheme.
- Tools: TensorFlow, MxNet, Pytorch, Hyperledger Composer, LaTex, Hugo, Android Studio.