BINYANG LIU

Email: **Tel:**

EDUCATION

Boston University 08/2021- Present

- Degree: ***MS in Computer Science***

The Pennsylvania State University, University Park 08/2014 - 05/2019

- Degree: ***BS in Computer Science*** *(earned in May 2020)*
- Honor/Awards: Dean's List for Fall 2015 Semester

TECHNICAL SKILLS

- **Programming Languages:** C/C++, Java, JavaScript, Python, Php, Ruby, Go, Html, Scheme, Verilog
- **Applications**: Atom, MATLAB, NetBean, MS SQL, MS Visual Studio, Ubuntu, Ansible, Terraform, AWS, Google Cloud

EXPERIENCES/PROJECTS

User-adaptive Chess Engine Project 11/2018 – 01/2019

Associated Researcher at Megvii. Inc

- Aimed to develop a user-adaptive chess engine which adapted to players' strength base on self-assessment, evaluation of their moves and response time
- Took responsibility for the design of player strength estimation function
- Achieved to adjust to player strength level within 12-20 rounds

Multi-thread HDD Driver with Pthreads 09/2018 – 11/2018

- Designed a multi-threaded client-server system in which the client sends the server requests and the server emulates processing of these requests by waiting/sleeping for a specified amount of time
- Implemented in C and both client and server work as intended

Gomoku AI Design Using 3-Dimensional Convolution Network 06/2017 – 08/2017

- Made use of Monte Carlo Tree Search and value neural network that was implemented in Python using TensorFlow
- Trained the AI with 1,000 random games then with 100,000 games between two Minimax AIs and finally with 100,000 professional games
- Gained a prediction accuracy of 76.3% and validation accuracy of 62.1% after training the network

Online Retail MySQL Database Design 09/2016 – 11/2016

- Teamed with other three members to design an online shopping database of managing retailers and customer activities
- Mainly responsible for ER design and testing
- Managed to develop the database with good performance and scalability.

Sudoku Solver using Dancing Links 03/2016 – 05/2016

- Aimed to fill a 9×9 grid with digits so that each column, each row, and each of the nine 3×3 subgrids that compose the grid contains all of the digits from 1 to 9
- Reduced Sudoku problem to exact cover problem using dancing links with Java
- Worked as intended and had excellent performance on problems with high degree of complexity

Large Integer Factorizer using Multiple Polynomial Quadratic Sieve 09/2015 – 11/2015

- Aimed at factorizing large integers
- Based on Quadratic Sieve which is the fastest factorization algorithm from integers between 10^15 to 10^100

Database-driven Booking Agent in JAVA 09/2015 –11/2015

- Designed a web-based JAVA program intended for handling car renting
- Successfully completed the program with a bright and user-friendly interface and assumptive functions

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