Qingyi Lu

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Education

Brown University - Providence, RI   *Excepted May 2021*
Master in Computer Science
⋅ Current Courses: Deep Learning, Computer Graphics

Hobart and William Smith Colleges (HWS) - Geneva, NY | Overall GPA: 3.97/4.0, Summa Cum Laude   *May 2019*
Bachelor of Science degrees with Highest Honors in Mathematics and Computer Science
Honors Thesis: "Machine Learning for Phylogenomics: Improving Statistical Binning Technique for Species Tree Reconstruction"
⋅ Related Course: Software Development, Database Theory and Practice, Artificial Intelligence, Probability, Math. Statistics
⋅ Significant Awards/Honors: Member of Phi Beta Kappa, Catherine Adele Rippey '35 Prize, Robert Beinert Prize

Skills

Languages: Advanced: Java, R, SQL, LaTex | Proficient: C++, Python, PHP, HTML | Familiar: C, Assembly Language
Tools*:* Eclipse, R Studio, Arduino, Anaconda/Python3, Qt Creator, TensorFlow, MATLAB

Relevant Programming Experience

HWS Mathematical Phylogenetic Scholars Program | Research Assistant   *Geneva, NY | Aug 2016 - Aug 2018*
⋅ Worked on a Phylogenetic project—a combination of Mathematics, Computer Science and Biology
⋅ Analyzed and improved the Statistical Binning Techniques for Species Tree Reconstruction
⋅ Conducted experiments for big data sets and performed data analysis in R and Python
⋅ Verified experimentally that statistical binning can reduce gene tree estimation error and improved the classification of which gene trees to bin together

HWS IT Department | Database Engineer Intern   *Geneva, NY | May 2018 - Jul 2018*
⋅ Managed the database system of IT service and programmed in MySQL and PHP
⋅ Used TeamDynamix to set up a new IT service system

Relevant Teaching Experience

Future+ Summer Camp | Organizer & Instructor   *Dalian, Liaoning | Summer 2019*
⋅ Lead prospective college students to understand the emerging fields of science and technology, including machine learning, artificial intelligence, and computer vision
⋅ Coordinated with other organizers to construct the lectures and assignments in machine learning
⋅ Motivated the students in their machine learning projects

Hobart and William Smith Colleges | CS Teaching Fellow & Calculus TA   *Geneva, NY | Aug 2018 - May 2019*
⋅ Tutored students in computer science introductory and calculus courses and guided them to solve the problems

Projects

AI Violin Tutor | Independent Project   *Jun 2019 – present*
⋅ An application written in Java to perform an AI violin tutor, which could evaluate the pieces played by the students
⋅ Conducted experiments to train AI tutors according to different machine learning algorithms, and test their evaluations ability
⋅ Improving the models by applying deep learning

Machine Learning for Phylogenomics | HWS Honors Project   *Geneva, NY | Aug 2018 - May 2019*
⋅ Applied machine learning to Statistical Binning method to classify the datasets by using R and Python
⋅ Analyzed the machine learning algorithms and represented the tree format data in a more useful way for ML
⋅ The goal is to conduct experiments by using machine learning and improved the Statistical Binning method to produce accurate species trees for all types of datasets

AI Connect Four | Class Project   *Geneva, NY | Apr 2019 – May 2019*
⋅ A Java application that implements the Connect Four game with different types of AI players, including adversarial search algorithms, machine learning, reinforcement learning, deep learning
⋅ Conducted experiments for all types of AI players, compared the statistics and improved the players

Classroom Reservation System | Class Project   *Geneva, NY | Nov 2018 – Dec 2018*
⋅ An application written in MySQL, PHP and HTML managing the database system and web development
⋅ Designed and implemented a classroom reservation system, which allows faculty and student to check the classrooms' schedules and reserve the classrooms

Academic Publications

Journal Article   *Jul 2018*
⋅ Joseph P Rusinko, Jennifer Vandenbussche and Qingyi Lu. (2018). Improving Statistical Binning Techniques for Species Tree Reconstruction. Manuscript submitted for publication.