

# Benjamin Li

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## EDUCATION

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### **Boston University**

*Bachelor of Science in Computer Engineering*

*Bachelor of Science in Electrical Engineering*

*GPA 3.88/4.0 (magna cum laude)*

Boston, Massachusetts

*Sep 2018 – May 2022*

*Sep 2018 – May 2022*

*Dean's List (all semesters)*

## WORK EXPERIENCE

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### **Microsoft**

*Software Engineer - Azure Batch Computing*

Redmond, Washington

Aug 2022 – Present

- Collaborated across departments to redesign the Azure Batch Scheduler through decoupling with resource management, removing anti-patterns and facilitating the next generation scheduler
- Spearheaded efforts to revamp production testing of service upon release through instrumented scenarios, resulting in regressions being caught before they reach the customer
- Developed and released 2 new API endpoints for interacting with compute nodes

### **Microsoft**

*Software Engineering Intern - Data Center Construction Engineering*

Redmond, Washington

May 2021 – Aug 2021

- Constructed Windows application that automates parallel bulk file uploads to Azure Digital Asset Management using .NET WPF and internal Microsoft APIs
- Designed overall software architecture and file synchronization algorithm

### **Hewlett Packard Enterprise**

*Big Data Engineering Intern - Scale-out Data Platforms*

Andover, Massachusetts

May 2020 – Dec 2020

- Built ingest microservice for collection of data-center statistics from HPE RDA Domino using Java, Kubernetes, and shell scripting
- Led effort to develop and implement CI/CD road-map, including integration with Jenkins, Artifactory, and Kubernetes

### **Rocket Software**

*Software Engineering Intern - IBM Zowe*

Waltham, Massachusetts

Jun 2019 – Dec 2019

- Modernized an IBM Zowe (Mainframe OS) data recovery service to leverage the Java Spring Framework instead of raw servlets for integration with REST API
- Developed an IBM Zowe infrastructure configuration service using JS and Java in collaboration with full-stack team

## RESEARCH EXPERIENCE

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### **TimeLord**

*Collaborator*

Boston, Massachusetts

Jul 2023 – Aug 2023

- Worked with the Computer Architecture and Automated Design Lab at Boston University on TimeLord, a research project that exploits wasted cycles during MPI communication
- Devised novel low-overhead method to track function calls as part of a runtime prediction algorithm

### **Boston University Integrated Circuits & Systems Group**

*Undergraduate Researcher*

Boston, Massachusetts

Jan 2020 – May 2020

- Assisted research team with adding vector extension capabilities to Blackparrot, a linux-capable accelerator host multi-core CPU, using Verilog for architecture implementation









## TEACHING EXPERIENCE

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- Course Co-Instructor** CS200: Applied Problem Solving May 2021– May 2022
- Co-Instructed an elective course in the Computer Science department under the advisory of Dr. Dora Erdos for two semesters
  - Created engaging lecture material about algorithmic programming techniques not taught as part of a conventional course load
- Teaching Assistant** EC527: Multi-core and GPU Programming Jan 2022 – May 2022
- Hosted office hours to answer students' questions about graduate-level course material and provided guidance for final project
- Teaching Assistant** EC503: Advanced Data Structures & Algorithms Jan 2020 – May 2020
- Hosted office hours to answer students' questions about graduate-level course material as a Sophomore
  - Devised workshop on leveraging Git as a version control tool

## PROJECTS

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- drugML** |  [www.drugml.xyz](http://www.drugml.xyz)  [drugML/drugML](https://github.com/drugML/drugML)
- Research tool that predicts drug-disease interaction based on molecular properties using deep-learning
  - Formulated deep-learning model using TensorFlow and crafted an automated method for extracting chemical properties from PubChem and other public sources.
- uDrop-Generation** |  [Presentation](#)  [BU-EC552/uDrop-Generation](https://github.com/BU-EC552/uDrop-Generation)
- Aligned efforts with Boston University's Cross-Disciplinary Integration of Design Automation Research (CIDAR) lab to improve microfluidic droplet detection through the use of filters and edge-detection fine-tuning algorithms.
  - Responsible for threshold algorithm implementation into existing code base. Currently being used by the research lab
- WikiWhere** |  <https://wikiwhere.rciliberto.com/>  [wikiwhere/wikiwhere](https://github.com/wikiwhere/wikiwhere)
- Graph-based visualization of hyperlink connectivity among Wikipedia articles
  - Optimized shortest path algorithm by implementing a multi-threaded, bi-directional, Breadth-First Search of Wikipedia article data.
- Raspberry Pi/Jetson Nano Computing Cluster** |  [Design](#)  [buhpc/cluster](https://github.com/buhpc/cluster)
- 14-node mixed Raspberry Pi/Jetson Nano cluster, currently being used for club workshops
  - Coordinated members to build cluster, soldered custom DC power supplies for individual nodes, and oversaw cluster security

## AWARDS & ACHIEVEMENTS

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- Student Cluster Competition at SC22** Highest HPL Special Award Nov 2022
- Student Cluster Competition at SC21** Top 3 Benchmarking Score Nov 2021
- Supercomputing** Conference Scholarship Nov 2021
- ACM Practice & Experience In Advanced Research Computing** Conference Scholarship July 2022
- ICPC North America Northeast** Regional Competitor Jan 2021
- Supercomputing** Conference Scholarship Nov 2020

## ACADEMIC ACTIVITIES

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- Mentor** Massachusetts Supercomputing Team Mar 2022 – Nov 2022
- Supported the Massachusetts Green Team in the form of technical training, vendor outreach, and hardware guidance, resulting in the team winning the Highest HPL Score Special Award
- President** Boston University High Performance Computing Club Apr 2020 – May 2022
- Expanded the club's presence in the HPC community by giving presentations at the Boston Linux and Unix and the Boston HPC & GPU groups
  - Designed and managed two on-premise computing clusters, and facilitated interactive experiences with cluster software during club meetings
- Co-Founder** Boston University Competitive Programming Team Jan 2021 – Nov 2021
- Competed at the ICPC North America Northeast Regional competition

**Captain** Massachusetts Supercomputing Team

Nov 2019 – Nov 2021

- Led the Massachusetts Green Team, which consisted of multiple Boston-area colleges, to compete in 2 Student Cluster Competitions
- Ran experiments on simulation programs with different node and core configurations and produced paper detailing reproducibility results
- Established partnerships between the team and multiple industry vendors and the HPC community

## PRESENTATIONS

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**Panelist** ACM Practice & Experience In Advanced Research Computing Conference Jul 2022  
*Introduction to RISC-V and User-defined Extensions (like xBGAS)*

**Student Presenter** ACM Practice & Experience In Advanced Research Computing Conference Jul 2022  
*Introduction to Cluster Competitions*

**Guest Presenter** HPC & GPU Supercomputing Group of Boston Apr 2020 – May 2022

**Guest Presenter** Boston Linux and Unix Group Apr 2020 – May 2022