Marc Bacvanski

bacvanski.m@northeastern.edu • (650) 772 0035
linkedin.com/in/mbacvanski • github.com/mbacvanski
Mountain View, CA • Available: January – August 2022

Education

Northeastern University   Aug 2019 – May 2023
    Khoury College of Computer Sciences   **GPA: 3.8**
    Candidate for Bachelor of Sciences in Computer Science

- **Relevant Coursework:** Data Structures and Algorithms, Computer Systems, Object Oriented Design, Mathematics of Data Models, Foundations of Cybersecurity, Bostonography: Data science course analyzing Boston's data
- **Honors and Awards:** Dean's scholarship & Dean's list 2019-present, 1st place at Northeastern Interdisciplinary Case Competition, 1st place at Husky Health Innovation Challenge Case Competition
- **Activities:** VP of Technology Consulting at TAMID finance and consulting group, Competitive programming club

Certifications

- **Deep Learning (5 course series), 2020:** Specialization certificate for Deep Learning on Coursera by deeplearning.ai, credential UW7XJ2WBD4A2. CNNs, RNNs, sequence models, and deep learning strategies.
- **CS-191x: Quantum Mechanics and Quantum Computation, 2020:** EdX course from UC BerkeleyX, credential 18fb330fda7e47ec834dafaa682a5a0b. Grover's algorithm, Shor's algorithm, Hamiltonians, spin qubits.
- **Qiskit Certificate of Quantum Excellence, 2020:** certificate from IBM Qiskit Global Summer School 2020.

Work Experience

SWE Intern (AI & Data Developer Experience) – Facebook.   May 2021 - Aug 2021

- Developed infrastructure enabling transfer learning for AI models used in advertising, Instagram feed, reels, etc.
- Architected and implemented a detection, alerting, and diagnosis system for NE (Normalized Entropy) explosions during model training workflows
- **Saving over $113MM of yearly lost revenue** by automatically detecting and mitigating failed AI training workflows

Quantum Computing Researcher – University of Waterloo.   Feb 2021 - Present

- Research as part of the University of Waterloo's Institute for Quantum Computing (IQC), in the Transformative Quantum Technologies (TQT) group
- **Invented novel algorithms to arrange the world's largest Rydberg atom arrays, enabling large-scale trapped atom quantum computers and quantum simulators.** Currently in the process of writing a paper on this.

Software Engineering Intern – Vicarious Surgical.   Jan 2021 - May 2021

- Designed and implemented a Python-based aggregation and analysis platform for high volume surgical robot data
- **Drove improvements in surgical robot reliability** through creating data visualization and exploration tools in React
- **Automated surgical video analysis** through developing computer vision software tooling to capture tool usage and sub-second electrosurgery activation

Other Experience

VP, Tech Consulting – Northeastern's TAMID Finance and Consulting Group   July 2021 - Present

Venture Analyst – Northeastern's IDEA Venture Accelerator   Jan 2020 - Jan 2021

Founder, Lead Organizer – MVHacks Hackathon   Nov 2015 - May 2019

Software Skills

Languages: Go, Java, JavaScript & Node.js, Python (also familiar with C++, C#, C, R, bash)
Technologies: GraphQL, MongoDB, Firebase / Firestore, Algolia, ElasticSearch, Redis, Cassandra, Linux, Git
Cloud: Microservices, Google Cloud, AWS, Heroku, REST, Internet of Things
Deep Learning: Convolutional neural networks, Recurrent neural networks, Keras, Tensorflow