JAY **BURKHARDT**

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Education

University of Massachusetts, Boston Jan 2021 - May 2022
Bachelor of Science in Computer Science
GPA: 3.96
Honors: summa cum laude

Middlesex Community College Jan 2018 – Jan 2021
Associate of Science in Computer Science

Courses: Compilers, Advanced Algorithms, Operating Systems, Higher Level Languages, Database Management, Ethics in Computing, Computer Architecture and Organization, Theory of Computation, Graphics, Linear Algebra, Discrete Math.

Skills

Languages:	JavaScript, React, C, Java, Python, TypeScript, Scheme, Coq,
Technologies:	Git, Vim, VSCode, IntelliJ, Jupyter
Platforms:	Ubuntu, Windows 10

Experience

NYU Grossman School of Medicine with UMass Boston
Boston, MA
Undergraduate Research Assistant – Front-End Team
Sept 2021 – Present

• Created N-Tools-Browser, a front-end 3D medical visualization application for examining electrode data for clinicians, scientists, and researchers at NYU Grossman School of Medicine.
• Used the X-Toolkit, a graphics library built upon WebGL.
• Developed functionality for mapping electrode coordinates to MRI scans.
• Implemented features for editing electrode attributes and adding annotations.
• Published paper in *Frontiers in Bioinformatics – Data Visualization.*

Projects

Connect-Four Minimax AI
• Connect-four AI in React.js with TypeScript using a minimax depth-first function and normal distribution heuristic function to evaluate board positions.
• Used alpha-beta pruning to reduce the search space.

Hamming (7, 4) RAID 2 Encoding and Decoding
• Implemented a RAID 2 encoding in C using Hamming (7, 4) codes to encode plain text files into seven text files to simulate seven drives.
• Decodes the seven files into the original file even if one text file is corrupted.

Other Experience

Middlesex ACE Department
Lowell, MA
Supplemental Calculus Instructor
Sept 2019 – May 2020

• Developed lesson plans and taught differential calculus to small groups of students twice a week.
• Met with students for one-on-one tutoring.
• Attended monthly training modules to improve teaching skills.