Om Prajapati

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Education

Northeastern University Boston, MA

B.S. Computer Science at Khoury College of Computer Sciences *Sep. 2022 – May. 2026*

- **GPA:** 3.7
- **Relevant Coursework:** Programming in C++, Object Oriented Design(Java), Algorithms & Data, AI, Computer Systems, Computer Arch, Mathematics of Data Models, Cybersecurity, Fundamentals of CS II(Java), Discrete Structures

Technical Skills

Languages & Frameworks: Java, C#, C++, JavaScript, React.js, Node.js, Express.js, p5.js, Chakra, CSS
Developer Tools & Platforms: SQL, JUnit/NUnit, Linux, Git, Jira, Bitbucket, Apache, Visual Studio, IntelliJ, Helix ALM
Concepts & Techniques: Algo & DS, OOP, REST APIs, TCP Protocol, Agile/Scrum, Sockets, Medical Devices Processes

Experience

Software Engineer, Co-op Jan. 2025 – Aug. 2025

OnPoint Surgical – Early Stage AR Surgery Startup *Concord, MA*

- Developed and launched an innovative AR 3D guideline rod feature using Unity/C# that increased surgical screw placement accuracy by an average of 2mm and reduced misplacement rates by 15% or 0.5mm
  - **Optimized Spinal Fusions:** Improved patient outcomes by facilitating precise screw positioning along straighter trajectories for minimally invasive surgeries (MIS) and open spinal fusions, constituting 90% of spinal surgeries.
  - **Vertebral Body Tethering (VBT) and Anterior Vertebral Tethering (AVT):** Streamlined pediatric procedures and enhanced patient outcomes by providing virtual straight path guidance during lateral approaches through the chest, aiding in MIS cases and accurate tether location/adjustment as the child grows.
- Presented the 3D rod guidance feature to leading surgeons, including Dr. James Kang, Chairman of Orthopaedic Surgery at Brigham and Women's Hospital (BWH), receiving commendations for achieving straighter screw and spinal alignment.
- Led the refactoring and enhancement for the TCP communication layer and workflow processes using C# and latency reduction algorithms, resulting in a reduction in processing times and AR headset responsiveness.
- Collaborated with cross-functional teams in a fast-paced, early-stage startup environment (30 employees, Series E funded with $XXM in funding and a $XXXM valuation).

Software Engineer, Co-op Jan. 2024 – Aug. 2024

Insulet *Acton, MA*

- Engineered and implemented a byte stream conversion tool using C#/.NET for Insulet's insulin pod testing software's compatibility with a legacy parsing tool, enabling ease of use in manufacturing processes and failure investigations.
- Assisted the development of a Bluetooth Low Energy (BLE) Hardware Abstraction Layer (HAL) Fixture for the Omnipod 5 Insulin Pod, by documenting commands within the HAL fixture.
- Refactored C# codebase for JSON serialization compatibility of commands and responses, alongisde authoring unit and integration tests for new features and tools using NUnit to enhance software stability
- Led a co-op panel for new interns, providing guidance on professional development, offering advice on being a proactive and initiative-taking co-op, demonstrating leadership qualities.
- Received extension offer to contribute to the development of new team projects.

Projects

URL Shortener Web App | *React, Node/Express.js, SQLite, TypeScript, HTML/CSS* July 2023

- Engineered a robust full-stack URL Shortener web application utilizing React.js, Node.js, and SQLite3, optimizing the app's performance and scalability
- Introduced QR code generation and seamless clipboard copy features, elevating user engagement and convenience
- Honed expertise in both frontend and backend technologies, demonstrating a comprehensive approach to web development

Open Source Contributor, Gaffer (GCHQ) | *Java, Apache Accumulo, Graph Databases, Git* July 2023

- Spearheaded the resolution of pivotal bugs in Gaffer's MiniAccumuloStore implementation, optimizing system robustness
- Devised and rigorously tested solutions to manage null returns, ensuring seamless system operations
- Deepened expertise in Java programming while working with expansive graph databases and leveraging Apache Accumulo for management of said graphs

A* Algorithm Visualizer | *JavaScript, p5.js, Algorithms, Graph Traversal, BFS* December 2022

- Leveraged JavaScript and the p5.js library's COCO-SSD TensorFlow API to craft a dynamic, grid-based canvas visualization of the A* Algorithm
- Implemented heuristic functions to estimate the shortest path between the start and end nodes, optimizing the base Dijkstra's algorithm's efficiency
- Integrated dynamic path updating, allowing users to visually witness the algorithm's decision-making process as it computes the optimal route