

# SHALOM JAISON

+1 (413) 313-7328 | shalomjaison@outlook.com | Amherst, MA, USA

## PROFESSIONAL SUMMARY

**Dual-degree Computer Science & Mathematics candidate (UMass Amherst, GPA 3.93)** with a proven track record in **Full-Stack Development, Blockchain, and Machine Learning**. Designed **scalable systems**, optimized **ML models**, and engineered **high-performance applications**—combining **data-driven problem-solving** with **cutting-edge technologies**

## EDUCATION

### University of Massachusetts - Amherst

*Bachelor's, Computer Science*

**Sep 2021 - May 2025**

*GPA: 3.93*

- Software Eng, Web Dev, Distributed Applications [Crypto], ML, Computer Vision, OS, Computer Networks, Database Management

### University of Massachusetts - Amherst

*Bachelor's, Math (Dual Concentrations: Stats & Actuarial Sci)*

**Sep 2021 - May 2025**

*GPA: 3.93*

- Multivariate Calculus, Linear Algebra, Mathematical Finance[Derivative Pricing, Financial Markets], Statistical Analysis, Design of Exp

## PROJECTS

### Two-Good Landing Page Recreation (HTML | CSS | JavaScript | GSAP)

- Led the development of a pixel-perfect, responsive replica of the Awwwards-winning Two-Good landing page, meticulously aligning with high-caliber design standards to ensure seamless UI/UX consistency
- Engineered immersive, high-fidelity interactions by integrating GSAP animations and JavaScript-driven transitions, accurately replicating dynamic motion effects for a fluid user experience
- Optimized load performance and scalability through efficient asset management, lazy loading, and CSS/JS minification, ensuring lightning-fast rendering across all devices and browsers

### Minutemen Marketplace (HTML | CSS | TailwindCSS | JavaScript)

- Increased user engagement by 30% through the development of product features for a highly performant marketplace utilizing design patterns, JavaScript, HTML, and CSS to ensure smooth transitions and intuitive navigation.
- Improved backend security and operational efficiency by integrating Express.js and PouchDB for user authentication and management
- Enhanced database efficiency by optimizing data retrieval mechanisms, reducing load times and improving overall responsiveness

### Blockchain Simulator (Proof of Work (PoW) | UTXO | Merkle Trees | Transaction Validation | Python)

- Increased blockchain framework efficiency by 40% by developing a backend system with custom classes for transaction validation, UTXO management, and Merkle tree management
- Strengthened blockchain security by enforcing rigorous input/output constraint checks and secure coinbase minting mechanisms
- Improved block validation accuracy by developing a transaction validation system to simulate blockchain operations with PoW mining

### Panoramic Image Stitching (Numpy | Scipy | Matplotlib)

- Boosted matching accuracy by 30% in a panoramic stitching program using Harris Corner Detection and patch-based feature extraction
- Improved image transformation precision by integrating RANSAC for accurate inlier detection and geometric corrections

## PROFESSIONAL EXPERIENCE

### UMass CICS

*ML/RL Research Assistant (Python | NumPy | Matplotlib | Seaborn | TLA Framework)*

**Remote**

*Jun 2024 - Aug 2024*

- Designed and developed a multi-layer Q-learning framework with dynamic tau adaptation and a custom gate, improving decision accuracy by 25% through optimized state-action evaluations
- Streamlined RL evaluation using advanced epsilon-greedy policies and visual Q-value heatmaps, enabling in-depth performance analysis across 10,000 training episodes and improving policy refinement
- Automated reward tracking and penalty analysis, optimizing workflows to accelerate model convergence and improve learning efficiency

### UMass Student Union

*Information Desk Assistant*

**North Amherst, MA, USA**

*Sep 2023 - Present*

- Collaborated with cross-functional teams to deliver efficient customer service, ensuring accurate and high-quality response
- Streamlined operations by coordinating with Student Affairs Office to implement systems for managing reservations and data

## SKILLS

**Programming Languages:** Python, JavaScript, HTML/CSS, Solidity, C/C++, Java, Git, PostgreSQL

**Frameworks and Libraries:** Express.js, Node.js, React.js, NumPy

**Tools & Technologies:** Git, Postman, Figma, Linux/Unix, Matplotlib, Seaborn

**Databases:** MongoDB, PostgreSQL

**Languages:** Hindi, Malayalam, English