Victor Verma

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EDUCATION

Boston University **Boston, Massachusetts**

B.A. in Mathematics and Computer Science, Minor in Data Science *May 2025*

- **Honors:** 3.87 GPA, 6x Dean's List, UROP Student Research Award.
- **Relevant Courses:** Algorithms, Computer Systems, Database Systems, Distributed Systems, Functional Programming, Machine Learning and AI, Software Engineering, Differential Equations, Linear Algebra, Multivariate Calculus, Probability, Stochastic Algorithms, and Stochastic Processes.

WORK EXPERIENCE

Questrom School of Business, Boston University **Boston, Massachusetts**

Research Assistant *Jan 2023 – Present*

- Created a novel dataset documenting the education and work history of 150,000 U.S. State Legislator Candidates from 1967 to 2017, discovering only 40% of candidates have biodata available online.
- Engineered Python software leveraging the Google Search API, the OpenAI API, pandas, and BeautifulSoup to collect and filter biodata from 600,000 web pages and PDFs.
- Developed neural network, random forest, XGBoost, and k-nearest neighbors models achieving a 72% accuracy rate and 0.80 f1 score in classifying biodata outputs as true or false.
- Increased data collection efficiency by 16x by implementing multithreading, rate limiting, and error handling.

Savvas Learning Company **Boston, Massachusetts**

Software Development Engineer Intern *Jun 2024– Aug 2024*

- Developed a chatbot assistant for 400+ employees to efficiently query enterprise documentation and the codebase using an Amazon Bedrock Retrieval-Augmented Generation (RAG) pipeline and the LlamaIndex API.
- Leveraged the Confluence and GitHub APIs to automate the upload of 500+ Confluence documents and GitHub README files into S3 buckets, creating comprehensive knowledge bases for the RAG pipeline.
- Designed a FastAPI backend with Google OAuth to restrict access to Savvas employees, integrating a Gradio frontend with the chatbot service deployed using AWS Lambda.

Kappa Theta Pi Professional Technology Fraternity - Lambda Chapter **Boston, Massachusetts**

App Committee Head *Sep 2023 – Aug 2024*

- Led a 6-member team in designing and developing a website containing academic and professional resources for 80+ fraternity members, including course details, professor reviews, and important information.
- Built a full-stack web app using React, Node.js, Supabase, and MongoDB, and Google OAuth using Firebase.

PROJECTS

Letterboxd Movie Recommendations

- Engineered a content-based filtering system leveraging random forests and 45,000+ data points to generate personalized movie recommendations for 800+ users in 50+ countries and deployed a full-stack web app using React, TypeScript, Tailwind CSS, Flask, and Supabase.
- Displayed 10+ unique user profile statistics, updated in real-time based on activity from other users across the platform, and a downloadable data visualization of individual movie rating habits.
- Created 2 GitHub Actions to automate the weekly scraping of publicly accessible Letterboxd data and to update the statistics of 400+ users monthly.

StatSense AI

- Built LSTM and Simple RNN models with TensorFlow to forecast NFL statistics for QBs, RBs, WRs, and TEs using weekly statistics in time series, achieving a 75% success rate against player props set by sportsbooks.

SKILLS

Languages and Frameworks: Python, SQL, JavaScript/TypeScript, HTML/CSS, React, Node.js, Flask, Supabase, MongoDB.
Tools and Libraries: AWS, pandas, Scikit-Learn, NumPy, TensorFlow, Matplotlib, BeautifulSoup, Docker, Git.