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, Functional Programming, Machine Learning and AI, Software Engineering, Differential Equations, Linear Algebra, Multivariate Calculus, Probability, and Stochastic Processes.

WORK EXPERIENCE

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.

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

Research Assistant *Jan 2023 – May 2024*

- 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.

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

App Committee Head *Sep 2023 – Present*

- Led a 5-member team in designing and developing a centralized 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 to restrict access to fraternity members.

PROJECTS

Letterboxd Movie Recommendations

- Engineered a content-based filtering system leveraging random forests and 40,000+ data points to generate personalized movie recommendations for 700+ users in 40+ 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 300+ 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, JavaScript/TypeScript, HTML/CSS, React, Node.js, Flask, Supabase, MongoDB.
Tools and Libraries: AWS, Pandas, Scikit-Learn, NumPy, TensorFlow, Matplotlib, BeautifulSoup, Docker, Git.