Cristian Valencia

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EDUCATION

Virginia Polytechnic Institute and State University　　　　　　　　　　Blacksburg, VA
Bachelor of Science in Computer Science, GPA: 3.32　　　　　　　　*Graduation Date: Dec 2024*
Dean's List w/ Distinction 2024

RELEVANT COURSEWORK

General: Data Structures, Computer Systems, Computer Architecture, Algorithm Analysis, Machine Learning
Development: Mobile Development, Intermediate Software Engineering, Database Systems, Docker, GUI Development

PROJECTS

Movie Recommendation System | *Python, PyTorch, Scikit-learn*　　　　November - December 2024
- Developed a hybrid recommendation system using collaborative filtering and neural networks, achieving 46% improved accuracy (RMSE: 0.844) over baseline methods using MovieLens dataset
- Built neural collaborative filtering with 4-layer architecture and 64D embeddings, implementing sparse matrices and strategic sampling for memory efficiency
- Created evaluation framework with RMSE, MAE, and precision metrics, achieving 0.96 genre precision and robust rating predictions through cross-validation

VT Marketplace | *MongoDB, Express.js, React, Node.js*
- Implemented a scalable backend architecture capable of handling many users and product listings, with optimized MongoDB indexing for efficient data retrieval.
- Wrote advanced search functionality with multiple filters, handling different search parameters including location, category, and price ranges.

EXPERIENCE

Financial Coordinator　　　　　　　　　　　　　　　　June 2020 – December 2022
SOSi　　　　　　　　　　　　　　　　　　　　　　　　　　*Reston, VA*
- Orchestrated the daily processing of financial data for approximately 500 interpreters
- Worked on a custom PDF scraper, improving data processing amount by 35%

Technical Lead, TA Assignment Project　　　　　　　　　August 2024 - January 2025
Virginia Tech CS Department　　　　　　　　　　　　　　　　　*Blacksburg, VA*
- Leading the development of a TA assignment platform using the MERN stack (MySQL, Express, React, Node.js), integrating course data and TA requirements for dynamic and responsive matching.
- Developing a dynamic survey tool with advanced filtering to match Graduate and Undergraduate TAs to courses based on skill levels, class requirements, and availability cutting down department overhead

LEADERSHIP/EXTRACURRICULAR

Latin Link Executive Board | *Webmaster*　　　　　　　　　　May 2022 - May 2023
- Developed website for largest LatinX organization (350+ members); coordinated with 14-person executive board for event planning and execution displaying teamwork and leadership

VTHacks　　　　　　　　　　　　　　　　　　　　　　　September 2023
- Developed 'Wrapped To Go' using Spotify API in 24-hour hackathon, showcasing adaptability in high-pressure environment

Society of Hispanic Professional Engineers　　　　　　　　　　　October 2023
- Attended National Convention in Salt Lake City, participating in professional development workshops

Colorstack VT　　　　　　　　　　　　　　　　　　　　　　Spring 2024

TECHNICAL SKILLS

Languages & Tools: Java, Python, C, Kotlin, SQL, HTML/CSS, JavaScript, Git, GitLab, Docker, Linux, Typescript
Frameworks/Libraries: React, Node.js, JUnit, MongoDB, Jupyter Notebook, Mocha, Scikit-Learn, Pytorch, TensorFlow, Keras, OpenGL