Joel McCandless | AI Engineer

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SUMMARY

Results-driven accelerated M.S. and B.S. student in Computer Science & Computer Engineering at RPI. Recognized for delivering **high-impact solutions** and **providing effective leadership** in cross-functional teams. *Featured project at RPI: Engineering to Protect*

EDUCATION

Rensselaer Polytechnic Institute

M.S. in Computer Science '27; B.S. in Computer Engineering & Computer Science '26

4.0 GPA, Dean's Honor List, Rensselaer Leadership Award

Extracurriculars: RPI Men's Tennis, RPI Cybersecurity, Rensselaer Center for Open Source, SAAC

EXPERIENCE

Shubble | Creator & Team Lead   January 2025 - Present
- Created an open-source shuttle tracker for Yankee Trails and RPI used by 200 people per day
- **Managed a team of 16 students** to enhance the app, add data features, and redesign the UI
- Applied KNN, Random Forests, **Auto Regression (ARIMA)**, and RNNs to ETA prediction
- Utilized weighted bipartite matching with Mean Squared Error to match shuttles to schedules
- Built and maintained backend infrastructure by designing scalable database schemas and managing PostgreSQL using SQLAlchemy, ensuring data integrity and optimized performance

MITRE Corporation | GPS & Navigation Intern with AI Integration   May 2025 - July 2025
- Created an interface using **Llama and Mistral** to control frequency and bandwidth of a software-defined radio; used as a foundational codebase for a team of 20 people internally
- Improved testing speed by 3x through applying computer networking principles to satellite communication systems, **implementing real-time data visualization** using matplotlib
- Demoed contributions to sponsors three times, iterating and improving based on feedback
- Assessed system performance with quantitative metrics, identifying opportunities to improve

XP Health | Full-Stack Software Engineering Intern   May 2024 - July 2024
- Designed and implemented a barcode scanner framework to incorporate scanners into the daily operations workflow, **boosting inventory counting speed by 6X for 12 people**
- Recognized as a top-performing intern for cross-functional impact in Operations and Marketing
- Reduced **API latency 100x** by leveraging Django QuerySet to optimize SQL calculations

Project Able | Software Engineer   November 2024
- Won Best Accessibility Hack at HackRPI Hackathon, competing against 260 teams from 3 universities
- Leveraged AI (**OpenAI's ChatGPT**, Google Speech-to-Text) to build an accessibility-focused navigation app for visually impaired with voice interaction and user-recorded audio playback

MACHINE LEARNING & AI SKILLS

Skills: Regression, classification, deep neural networks, computer vision, linear algebra, probability

Languages & Tools: Python, C/C++, SQL, Numpy, OpenCV, Pandas, TensorFlow, Scikit, Git, Jira
- Developed and trained **CNNs and Fast R-CNNs** for image recognition and object detection; leveraged image preprocessing, feature extraction, and accuracy, precision, recall evaluation
- Applied vector spaces, eigenvalues/eigenvectors, orthogonality, least squares regression, and matrix decompositions (SVD, PCA) for **dimensionality reduction and optimization**
- Modeled random variables, conditional probability, expected value, variance, and covariance