Joel McCandless

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SUMMARY

Results-driven computer science co-term master's and dual bachelor's student in computer engineering and CS at RPI. Recognized for delivering high-impact solutions and providing effective leadership in cross-functional teams. Experienced in web development, robotics, and AI, with success in turning complex technical challenges into measurable business outcomes.

EDUCATION

RPI - Computer Science Co-terminal MS Student, Computer Engineering & CS Dual BS, '27

- 4.0 GPA. Dean's Honor List. Extracurriculars: RPI Men's Tennis, RPI Cybersecurity, RCOS, SAAC
- Rensselaer Leadership Award - "[A]n outstanding record of academic and personal achievements, a strong commitment to excellence, and illustration of intellectual curiosity"

COURSEWORK & SKILLS

AI - Computational Vision | Spring 2025

- Developed and trained CNNs and Fast R-CNNs for image recognition and object detection, leveraging Google Colab for scalable computing, transfer learning, and model optimization
- Applied algorithmic and ML-based computer vision techniques including image preprocessing, feature extraction, and performance evaluation with accuracy, precision, and recall
- Skills: Python, Numpy, OpenCV, Pandas, TensorFlow, Machine Learning, Deep Learning

Mathematics - Linear Algebra, Engineering Probability, Signals & Systems | Spring 2025

- Applied vector spaces, eigenvalues/eigenvectors, matrix decompositions (SVD, PCA), orthogonality, and least squares regression for dimensionality reduction and optimization
- Modeled random variables, conditional probability, expectations, variance, law of large numbers, central limit theorem, and distributions (Gaussian, Binomial, Geometric, Poisson)

EXPERIENCE

McCandless Consulting - Shuttle Tracker for Yankee Trails and RPI | Ongoing

- Created an open-source shuttle tracker displaying live shuttle locations with 5-second updates
- Built and maintained backend infrastructure by designing scalable database schemas and managing PostgreSQL using SQLAlchemy, ensuring data integrity and optimized performance

MITRE Corporation - GPS and Navigation Intern | Summer 2025

- Applied computer networking principles to enhance satellite communication systems
- 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 Web Engineering Intern | Summer 2024

- Recognized as a top-performing intern for cross-functional impact in Operations and Marketing
- Boosted inventory counting speed 6x by integrating barcode scanners into the daily workflow
- Reduced API latency 100x by leveraging Django QuerySet to optimize SQL calculations

TEAMWORK & LEADERSHIP

Secretary - RPISEC, RPI Cybersecurity | Ongoing

- Led team meetings, planned calendar, and competed in offensive cybersecurity CTF events

HackRPI Hackathon - Project Able, Awarded Best Accessibility Hack | Fall 2024

- Leveraged AI (OpenAI's ChatGPT, Google Speech-to-Text) to build an accessibility-focused navigation app for the visually impaired with voice interaction and user-recorded audio playback