

Pratosh Tiwari

<https://pratosh-tiwari.vercel.app/>

EDUCATION

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| • Rochester Institute of Technology B.S. Computer Engineering
<i>Dean's List Honors Student Provost Scholar RIT Presidential Scholar</i> | <i>Graduating 2029</i>
Rochester, NY |
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SKILLS

Languages and Tools: Python, C++, Linux, GitHub, Arduino, Quartus Prime, Jupyter, MAVLink, MissionPlanner | **AI/ML and Computer Vision:** PyTorch, TensorFlow, YOLO, OpenCV, RAG, CNNs, Claude Code, Cursor Agents | **Hardware and Embedded:** FPGA, ESCs, Pixhawk, NVIDIA Jetson Orin Nano, Raspberry Pi, Telemetry, LTE

WORK EXPERIENCE

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| • Team Lead and UAV Intern National Science Foundation
– As team leader, directed a team to build multi-agent UAV-UGV system for search-and-rescue.
– Achieved 98% human detection on edge computers (Pi and Jetson) with PyTorch, ArduPilot.
– Achieved sub-50 ms latency through LTE video communication pipeline using MAVLink, C++. | <i>May – Aug 2026</i>
Boise, ID |
| • Lead and Software Engineer Kate Gleason College of Engineering
– Leading development of a platform to tackle data bloat - received the Reeve Grant.
– Achieved 92% answer relevance across college-wide information sources.
– Achieved 94% answer correctness using Python, Qdrant, and Railway. | <i>Oct 2025 – Present</i>
Rochester, NY |
| • Computation Intern Indian Institute of Science (IISc)
– Engineered computational models to understand and reduce metastasis in cancer patients.
– Developed PDE simulation pipelines using TensorFlow, improving prediction accuracy by 23%. | <i>May – July 2024</i>
Bengaluru, India |

TECHNICAL PROJECTS

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| • SwarmShield Drone Swarm Defense Simulation
– Built multi-agent reinforcement learning environment for autonomous perimeter defense.
– Achieved 93.2% simulated interception success against coordinated drone swarms. | <i>Aug 2026 – Present</i>
Rochester, NY |
| • AVSCA Autonomous Visual Surveillance & Classification Architecture
– Designed vision pipeline to detect anomalies in airborne imagery from jets, UAVs (real-time).
– Implemented data processing, image analysis, and synthetic data generation using Python. | <i>Feb 2026</i>
Rochester, NY |
| • SimCLR Self Supervised Learning for Space
– Reduced labeled-data requirements by 90% using contrastive learning.
– Achieved 95.4% classification accuracy using ResNet-18 and PyTorch. | <i>Nov 2025</i>
Rochester, NY |

COMPETITIONS

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| • Anduril Drone Racing Virtual Qualifier 1 & 2
– Optimized vision and state estimation using AI/RL (PyTorch) with 36 seconds runtime (6 gates). | <i>2026</i>
Remote |
| • Team Leader & ML Engineer Winner - RIT HACK.COMS
– Built a platform to turn video news articles to ASL videos, winning among 150+ students. | <i>Nov 2025</i>
Rochester, NY |
| • Data Structures & Algorithms (DSA) Top 2% on CodeChef
– Ranked within top 2% of users on CodeChef (500,000 users) for DSA with C++ 17. | <i>2024</i>
Hybrid |

LEADERSHIP AND INVOLVEMENT

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| • Drone Pilot Federal Aviation Administration License
– Earned FAA (Part 107) License for commercial unmanned aircraft operations and testing. | <i>Aug 2026 - Present</i>
Boise, ID |
| • General Delegate RIT Service and Leadership Committee
– Represent and contribute to service at RIT - Veteran's Day, American Cancer Society. | <i>Jan 2026 - Present</i>
Rochester, NY |
| • Bagpiper and Lead CMS Bagpipe Band
– Led performances and rehearsals while mentoring younger members for coordination. | <i>2021 - 2024</i>
India |
| • Player RIT Tennis Club
– Participate in regular practices, matches, and club within RIT's tennis community. | <i>Aug, 2025 - Present</i>
Rochester, NY |