

RONIT MEHTA

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EDUCATION

Virginia Tech

Bachelor's, Computer Science

- Minor, Mathematics

September 2024 - May 2027

PROFESSIONAL EXPERIENCE

Hume Center for National Security and Technology

AI Research Intern

Blacksburg, VA, USA

September 2024 - Present

- Computationally modeling simulations for over 10,000 drones using NumPy and VisPy for real-time visualizations
- Designing drone-detection algorithms with reinforcement learning, Kalman Filters and Multiple Hypothesis Tracking at an approx 76% accuracy in detecting rogue drones
- Integrating 3D physics-based motion models to accurately model variations of lift, drag, and velocity decay with YAML-based configurations for scenario scripting and environmental variables

Y-Point

AI Intern

McLean, VA, USA

June 2023 - August 2023

- Evaluated the performance of different Large Language Models by testing GPT-3, Hugging Face's Libraries, and BERT, identifying GPT 3.5 as the most robust among them
- Developed POC for immediate mental health diagnoses with GPT 3.5, adhering to HIPAA requirements

PERSONAL PROJECTS

AI Powered Exploit Detection

Python, Bash, YAML, scikit-learn, Pandas

June 2025 - Present

- Training a Random Forest based exploitability classifier on labeled CVE datasets, achieving 85%+ precision in identifying insecure code patterns such as buffer overflows, unsanitized inputs, and use-after-free vulnerabilities
- Designing a CLI interface and Bash scripts to automate risk score outputs and flagged code segments
- Beta testing with over 5000 lines of code on open-source GitHub repositories, identifying 6 vulnerabilities

Chess Bot

Python, PyTorch, NumPy

April 2023 - December 2023

- Designed and created a Chess Bot capable of playing at an intermediate level (approx. 1200-1400 Elo)
- Applied advanced Min-Max algorithms with Alpha-Beta pruning to analyze game positions, calculate potential moves, and predict opponent strategies in real-time
- Incorporates deep neural networks using PyTorch to predict the chances of winning from any given position with 95% confidence

CERTIFICATIONS

- AWS Cloud Practitioner (June 2025)
- PCAP - Certified Associate in Python Programming

SKILLS

Programming Languages: Python, Java, C/C++, SQL, MATLAB, HTML/CSS, JavaScript, TypeScript, R

Tools and Libraries: Git, NumPy, VisPy, Pandas, scikit-learn, PyTorch, TensorFlow, MongoDB, RDBMS, NoSQL

Cloud: AWS, Azure