

Benjamin Tremblay

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EDUCATION

William & Mary – Williamsburg, VA

Aug 2022 – May 2027

- M.S., Computer Science | GPA: 4.0 | Aug 2026 – May 2027
- B.S., Computer Science, Concentration: **AI/ML** | GPA: 3.3
 - Minor: Philosophy
 - Dean's List 2022

Mountain Gateway Community College (formerly Dabney S. Lancaster) – Clifton Forge, VA

May 2022

- Associate's Degree, General Education | GPA: 3.8

TECHNICAL SKILLS

- **Languages:** Python, Java, C, SQL, x86 Assembly
- **AI/ML:** TensorFlow, PyTorch, Transformers, RAG, LLM Fine-Tuning (QLoRA), Prompt Engineering
- **Cybersecurity:** Kali Linux, Penetration Testing, Offensive Security Tools, Log/Vulnerability Analysis

EXPERIENCE

William & Mary, CS Department | Independent Research, Williamsburg, VA

May 2025 – Aug 2025

- Fine-tuned and evaluated **LLMs** for code generation, comparing **QLoRA** and full fine-tuning approaches on the HumanEval benchmark
- Analyzed 10+ research papers on LLMs, fine-tuning methods, and quantization to build a foundation for applying advanced ML techniques
- Presented at 3+ venues, including the Fall Undergraduate Research Symposium and Parents' Weekend CS Research Showcase

Alleghany Highlands Discovery Center | Summer Intern, Covington, VA

May 2023 – Aug 2024

- Designed STEM lessons for middle schoolers using 3D printing and interactive demos
- Researched and authored 4 articles on Covington's industrial history through interviews and archival work

PROJECT EXPERIENCE

AI/ML

- **Track-Bear-Pop:** Contributed to a three-part *AI* pipeline for identifying and tracking bear populations from trail cameras with the Kenai National Wildlife Refuge; labeled 100+ keypoints for a **Pose Estimation** model
- **Agent-Response:** **Fine-tuned** a pre-trained *LLM* (FLAN-T5) on healthcare call-center conversations, improving ROUGE score from 0.05 to 0.57 over the untrained baseline
- **If-Predicter:** Implemented a **masked language model (MLM)** to predict if-conditionals

Security

- **National Cyber League:** Ranked top 4% team (13/342) and top 6% individual (435/7006); strengths in **web exploitation** and **log analysis**
- **Applied Cybersecurity Pentest:** Performed a full-scope penetration test on a Metasploitable VM using Nmap, GVM, Metasploit, and Netcat; identified 20+ vulnerabilities and exploited 3 critical CVEs for unauthenticated remote root access

Other

- **GUIMemoryGame:** Built a memory game in Java Swing with difficulty levels, Unicode symbol sets, and persistent leaderboard storage via file I/O

ACHIEVEMENTS

D1 Esports Athlete (2022–2024) | Tri-Alpha Honors Society

RELEVANT COURSEWORK

- **CS 516 AI/ML Fundamentals:** Supervised/unsupervised learning, neural networks, model evaluation, hyperparameter tuning
- **CS 420 GenAI for Software Dev:** Fine-tuned LLMs and prompt engineering for code generation, bug fixing, and automated documentation within an agile development lifecycle
- **CS 564 Penetration Testing:** Kali Linux and offensive security tools within legal/ethical frameworks; National Cyber League

OTHER WORK EXPERIENCE

Food Lion | Cashier, Covington, VA (May 2022 – Aug 2022); **Wendy's** | Crewmember, Covington, VA (May 2020 – May 2022) | Customer service, teamwork, and reliability in fast-paced retail/food-service roles.