

# ETHAN VILLALOVOZ

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## Education

<b>Georgia Institute of Technology, College of Computing</b>	<b>Jan 2026 - Dec 2027</b>
Master of Science in Computer Science — Computational Perception and Robotics, GPA: 4.0/4.0	Atlanta, GA
<b>Washington State University, Honors College</b>	<b>Aug 2021 - May 2025</b>
Bachelor of Science in Computer Science — Minor in Mathematics, GPA: 3.94/4.0	Pullman, WA

- Senior Design Project: **Retrieval-Augmented Generation (RAG)** App Using Knowledge Graph and Vector Search
- Relevant Coursework: Artificial Intelligence, Machine Learning, Object-Oriented Programming, Probability & Statistics, Data Mining, Design & Analysis Algorithms, Optimization, Software Engineering, Data Structures, Linear Algebra

## Technical Skills

**Languages:** Python, C/C++, SQL, JavaScript, TypeScript, HTML/CSS, C#, MATLAB, R, Haskell, Swift  
**Developer Tools:** Git, GitHub, GitHub Actions, Docker, Bash, Conda, AWS, Postman, Jupyter, MLflow, DVC, MySQL  
**Libraries/Frameworks:** React, Next.js, FastAPI, PyTorch, Pandas, LangChain, Hugging Face Transformers, OpenCV

## Work Experience

<b>Microsoft</b>	<b>Summer 2026</b>
Incoming Software Engineer Intern	Redmond, WA
<b>Meta &amp; Major League Hacking</b>	<b>Jun 2025 - Sep 2025</b>
Production Engineering Fellow	Remote
<ul style="list-style-type: none"><li>• Deployed a full-stack <b>Flask portfolio app</b> with <b>Docker</b> on a <b>DigitalOcean VPS</b>, enabling persistent deployment and ensuring <b>100% uptime after reboot</b> through automated systemd services for stable production reliability</li><li>• Integrated a <b>MySQL database</b> and configured <b>Nginx reverse proxy with HTTPS and rate limiting</b>, strengthening backend scalability, improving security, and enhancing reliability for secure production environments</li><li>• Automated deployments with a <b>CI/CD pipeline</b> using <b>GitHub Actions</b> and <b>Bash</b>, cutting manual deployment time by <b>80%</b> and ensuring every push was tested, containerized, and deployed for efficient production workflows</li><li>• Implemented a comprehensive <b>monitoring stack</b> with <b>Prometheus</b>, <b>Grafana</b>, and <b>Linux CLI tools</b>, uncovering bottlenecks under load and optimizing resource allocation for consistent scalability and system performance</li></ul>	
<b>Carnegie Mellon University</b>	<b>Jun 2024 - Aug 2024</b>
Robotics Institute Summer Scholar	Pittsburgh, PA
<ul style="list-style-type: none"><li>• Developed a novel hierarchical <b>reward learning framework</b> using <b>Bayesian inference</b> to align robotic actions with human preferences from iterative <b>state corrections</b>, significantly enhancing robot adaptability</li><li>• Implemented a <b>proactive clarification dialogue</b> system that improved task accuracy by <b>30%</b> by resolving uncertainty through targeted human queries, reducing errors and advancing interactive human-robot collaboration</li><li>• Engineered a modular, extensible <b>Python-based simulation environment</b> using <b>Markov Decision Processes (MDP)</b>, supporting robust evaluation and iterative development of learning algorithms in simulated robotics tasks</li></ul>	

<b>Google</b>	<b>May 2023 - Aug 2023</b>
Software Engineering Intern (STEP)	Sunnyvale, CA
<ul style="list-style-type: none"><li>• Developed and deployed <b>5 C++ and SQL-based</b> analytics jobs for internal database queue metrics, significantly reducing operational costs and enabling data-driven decision-making in collaboration with engineering stakeholders</li><li>• Optimized data sampling strategies to scale job execution from <b>1%</b> to <b>100%</b> dataset coverage within <b>4 hours</b>, achieving a <b>66%</b> reduction in runtime and improving the scalability, accuracy, and efficiency of internal analytics workflows</li><li>• Built interactive, real-time dashboards using <b>HTML</b> and <b>SQL-based</b> queries, delivering actionable insights to internal teams across engineering and operations, and enabling faster decision-making through intuitive visualizations</li><li>• Implemented live-update statistical features on client dashboards with <b>HTML</b> and database-driven queries, enhancing stakeholder visibility into queue activity, reducing detection latency, and enabling more responsive system oversight</li></ul>	

## Projects

<b>SentiSync – Real-Time YouTube Sentiment Analysis</b>	Tech Stack: Flask, React, MLflow, DVC, Docker, AWS
<ul style="list-style-type: none"><li>• Built a real-time sentiment analysis system with a Chrome Extension frontend and <b>Flask API</b> backend, enabling instant visualization of YouTube comment sentiment using a fine-tuned <b>LightGBM</b> model and <b>TF-IDF</b> features</li></ul>	
<b>CodePrep.AI – AI Coding Interview Prep</b>	Tech Stack: React, FastAPI, Clerk, Hugging Face, SQLite
<ul style="list-style-type: none"><li>• Designed and deployed a full-stack platform for interactive coding interview prep that generates unique, difficulty-based challenges via <b>Meta-Llama-3-8B-Instruct</b>, with real-time feedback, quota tracking, and historical review</li></ul>	