

David Barron

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EDUCATION

- **Virginia Tech** Blacksburg, VA
Master of Science in Computer Science; GPA: 3.9 Jan. 2025 – current
- **Virginia Tech** Blacksburg, VA
Bachelor of Science in Business Information Technology GPA: 3.6 Aug. 2020 – July. 2024

EXPERIENCE

- **Virginia Tech** Blacksburg, VA
Research Assistant Oct 2024 - Present
 - **Sophia:** Developed a multimodal AI tutoring system using dynamic concept mapping to identify and remediate student misconceptions in data structures, achieving 3.95/5.0 satisfaction across 70+ students.
 - **Dynamite:** Developed a real-time discussion platform that automatically generates bullet-point summaries from live student conversations, deployed to facilitate class discussions for over 100 students.
- **Pearson** Remote
Cloud Engineer Intern May 2023 - Aug 2023
 - **Cost Optimization:** Implemented cost-saving initiatives within Pearson's infrastructure that saved the company more than \$200,000 by the completion of the internship.
 - **Infrastructure as Code & CI/CD:** Leveraged Terraform for Azure infrastructure creation and modification, and Ansible workflows via AWX for configuration management across Azure resources, implementing CI/CD pipelines through Git and AzureDevOps.
 - **Container Orchestration:** Managed and deployed clusters using Kubernetes.
- **Premier Inc.** Remote
Information Security Intern May 2022 - Aug 2022
 - **Cloud Security:** Collaborated with the Cloud Security Team to assess and implement changes within their cloud architecture.
 - **Insider Risk Management:** Performed Insider Risk Management by drafting policies, analyzing alerts, and escalating relevant alerts through Microsoft IRM.
 - **Active Directory Management:** Contributed to Active Directory Cleanup by generating reports using PowerShell and Excel and making appropriate modifications to Active Directory based on the report findings.
- **Triple Point Security** Blacksburg, Virginia
Cybersecurity Intern Feb 2022 - April 2022
 - **Security Awareness:** Designed and helped implement successful phishing campaigns to educate clients on security awareness.
 - **Cloud Architecture:** Configured cloud resources and designed secure architecture in AWS and Azure.
 - **Vulnerability Assessment:** Performed network and agent vulnerability scanning using Nmap and OpenVAS.

PROJECTS

- **Juno:** Developed a Chrome extension enabling voice-based interaction with configurable LLM agents via keyboard shortcuts, with extended capabilities through external tool integration.
- **PlotPact:** Built an AI-powered interactive storytelling platform that generates creative writing constraints to boost user creativity.

PUBLICATIONS

- **Dynamite: Real-Time Debriefing Slide Authoring through AI-Enhanced Multimodal Interaction:** Panayu Keelawat, **David Barron**, Kaushik Narasimhan, Daniel Manesh, Xiaohang Tang, Xi Chen, Sang Won Lee, and Yan Chen. *arXiv preprint arXiv:2507.20137*, 2025.

PROGRAMMING SKILLS

- **Languages:** TypeScript, Python, SQL, Bash
- **Technologies:** Next.js, React, Supabase, Git