

# David Barron

http://www.davidbarron.dev

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## EDUCATION

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- **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

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- **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, VA  
*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

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- **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

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- **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

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