DANIELLE BEAULIEU

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OBJECTIVE

I am a doctoral student in the Multimodal Vision Research Laboratory at Washington University in Saint Louis studying computer science and machine learning with long-term interests in deep learning, remote sensing, autonomous systems, and computer vision.

EDUCATION

PhD Student, Computer Science. Washington University in Saint Louis, 2024-Present.

- Recent coursework in LLMs, autonomous systems, and computer vision in addition to research rotations in multiple labs

Master of Computer Science, Certification in Data Mining & Machine Learning. Washington University in Saint Louis, 2021-2023.

- Grace Hopper scholarship award; member of Women in Computer Science, ACM, HCI, & DSC student organizations

Computer Science Fundamentals Certificate, 2019. Master of Computer Science, DS Specialization. Seattle University, 2020-2021.

- Grace Hopper scholarship award; member of W-ACM and ACM student organizations, graduate representative

Bachelor of Science in Computer Engineering. Purdue University, 2009.

- AMD Design Excellence Award for Fragment-Free Switch; member of Society of Women Engineers

Valedictorian, Honors. Owen Valley Community High School, 2005.

- National Merit Finalist; Resident Top Scholar Award for full tuition

PROJECTS

Machine Learning, Washington University in St. Louis. St. Louis, MO. Student, August 2021 – Present.

- Rotational research in multimodal vision engaging in statistical and clustering analyses with 3D meshes and point clouds
- Rotational research in autonomous systems to extend discriminating hyperplane findings via neural functional networks
- Research project evaluating reproducibility of and extending work on perception-based hybrid control with certificates
- Research project investigating effectiveness of LLMs to solve zebra puzzles via various prompting and tracking techniques
- Research project investigating effectiveness of crowdsourcing and aggregation algorithms in medical image segmentation

Machine Learning, Bilimetrix USA. Seattle, WA. Volunteer, March 2021 – August 2021.

- Installed machine learning pipeline including model, API, & database filter for kernicterus detection using C# and ML.NET

Data Science, Seattle University. Seattle, WA. Student, September 2020 – May 2021.

- Created political classifier and visualization for tweets by congress people using python & natural language processing

RELEVANT SKILLS

Languages: Python, Java, Groovy, Javascript, HTML/CSS, C, C++, C#, SQL, Drools, Fortran, R, Matlab, Scheme, Prolog
Concepts: AI/ML, data mining, cross-validation, feature engineering; OOP, REST APIs; cloud, containers; RDBMS, noSQL; CI/CD, Agile
Tools: Python (Numpy, Pandas, Scikit, PyTorch), AWS, Spring, Maven, JS (Node, Express, React), Analytics (New Relic, Grafana)

EXPERIENCE

Graduate Research Assistant, WashU Multimodal Vision Research Lab. Saint Louis, MO. January 2026 – Present.

- Develop multimodal representation learning and computer vision techniques to interpret complex data at a global scale

Research Assistant, Saint Louis University Computer Vision Lab. Saint Louis, MO. November 2025 – January 2026.

- Research deep learning methods to aid agricultural tasks like tracking root volumes and estimating crop yields

Senior Software Engineer, Disney. Remote, Saint Louis, MO. FTE, September 2023 – August 2024.

- Engineering lead for ESPN & Disney, designing product APIs, performing interim management duties, & mentoring
- Designed backend APIs for ESPN Flagship and Where-to-Watch initiatives expanding broadcast & personalization effort
- Created 3rd party infrastructure, onboarding new partners NESN & Monumental in marketplace streaming initiative
- Planned & conducted PELT for moving personalization to backend APIs, troubleshooting concerns with scale & stale cache
- Supported chatbot & summary generator using LLM & RAG, consuming internal current & historical sports data & content

Software Engineer II, Disney. Remote, Saint Louis, MO. FTE, September 2021 – September 2023.

- Engineer for ESPN & Disney sports & consumer products, developing new features and integrations for backend APIs
- Led sub-projects implementing a new Redis caching layer while transitioning support for current APIs and infrastructure

- Invented new features for Avro code generation frameworks and generated consumable schemas & client libraries
- Engaged in platform redesign, moving away from in-house legacy templates to a more modern & efficient technology stack
- Optimized performance resulting in lowering remote calls by a factor of 10 & AWS task counts to a third (with more traffic)
- Conducted Production Environment Load Testing & hyper-care using Blazemeter (with jmeter) and monitoring analytics
- Instrumented AWS lambda to proactively monitor APIs for missing airings and information in advance of events
- Designed and tested back-end APIs for PGA featured groups, working across teams with product, front-end, & QA

Software Engineer, Disney. Seattle, WA. FTE, July 2019 – August 2021.

- Engineer for ABC, ESPN, & Disney consumer products, implementing API fixes, enhancements, testing, & features
- Developed and maintained editorial and CMS flows and updates, including enforcement of distribution and viewing rights
- Delivered personalized content on multiple platforms via layered distribution platforms and messaging systems
- Implemented Netherlands localization & refactorization for soccer alerts to use new APIs, guiding QA team engagement
- Automated requirements intake into build system for NOAA alerts and developed prioritization feature for news banners
- Produced an autoscaling AWS lambda for ESPN notifications in conjunction with infrastructure and observability teams
- Drove unit testing effort for ESPN notifications project to utilize recorded resources for detecting key regressions

Solutions Engineer, Disney through KForce. Seattle, WA. October 2017 – June 2019.

- Developed and drove multi-phase, multi-platform solutions for Disney account management with focus on Disney+
- Designed internationalized text processing and delivery in APIs for ESPN+ & Disney+ customized to different devices
- Coordinated client configuration, integration, & approvals and engaged in after-launch hyper-care and product support

Software Engineer, Unoceros Corporation. Kirkland, WA. November 2015 – June 2017.

- Collaborated as a cross-functional Java engineer to create & leverage a distributed network of Android devices
- Championed product & market exploration, including leading a bi-weekly brainstorming discussion on company direction
- Prepared customer specifications and translated them into product design, implementation, & testing strategies
- Architected a POC loader for Android and product prototypes for SEO and performance testing on mobile devices
- Collectively designed and architected a REST API focused on enabling service usage to be extensible, scalable, & consistent
- Implemented & oversaw the majority of testing for the first & second architecture versions (unit, integration, & E2E)

Software Product Support Engineer, TalentWise. Bothell, WA. August 2015 – October 2015.

- Bolstered Tier 3 training materials, routed issues, and worked with Tier 4 to drill down and engage in root cause analysis

Software Engineer, Nordstrom contracting through Insight Global. Seattle, WA. June 2015 - July 2015.

- Developed in Java and Drools in Mavenized Eclipse to find a solution to dynamically load rules for routing shipments

Software Engineering Lead, Zoteca & EBO Nexus. New York City, NY. January 2010 - February 2015.

- Led the back-end engineering effort on a SaaS that helps low-income people connect to government assistance programs
- Maintained, continuously updated, & restructured the benefit qualification engine using Java, Drools, & JBoss EAP
- Analyzed product specifications and managed testing and deployment of solutions to test, staging, & live servers

Software Engineer, S&S Programming. Lafayette, IN. June 2009 - May 2010.

- Oversaw modernization, refactoring, & extension of livestock-tracking applications in Visual Basic, MS Access, & SQL

Student Software Engineer, Delphi Labs. West Lafayette, IN. January 2009 - August 2009, August 2007 - May 2008.

- Developed testing software in C# and analyzed XML data files for automotive modules and tested the modules themselves
- Developed prototype software in C for an FPGA module which would analyze video data and maintain user vehicle profiles

PCS Engineering Intern, Alcoa. Newburgh, IN. May 2008 - January 2009, May 2007 - August 2007.

- Deciphered antiquated manufacturing line modules in Fortran and translated them into their modern C counterparts
- Implemented scripts to convert large amounts of text file data into a more usable format & imported it into databases
- Led the installation and rewiring of control room equipment after researching & establishing team requirements
- Gained an understanding of CitectSCADA, implemented a display screen, & wrote accompanying training documentation

VOLUNTEER

FIRST Robotics, 2021: mentor for middle school students creating a pedal assist device for bicycling.
IGNITE Wordwide, 2020-2021: organizer and panelist for events targeting underserved middle school girls in STEM.
Disney, 2019-2022: outreach and event planning for internal Women+Tech organization, especially Seattle chapter.