

EDUCATION

Colorado State University <i>Ph.D. in Computer Science (in progress) GPA: 3.9/4.0</i>	<i>2025-Present</i>
BlueDot Impact <i>Certificate in Technical AI Safety</i>	<i>Earned August 2026</i>
Colorado State University <i>Masters in Computer Science GPA: 3.9/4.0</i>	<i>Earned August 2025</i>
Savvy Coders Bootcamp <i>Intensive 10-week program covering HTML, CSS, JavaScript, Git, Node.js</i>	<i>Graduated October 2018</i>
University of Missouri, Saint Louis <i>B.A. in Media Studies Pierre Laclède Honors College Certificate GPA: 3.9/4.0 Summa Cum Laude</i>	<i>Graduated May 2015</i>

PROFESSIONAL EXPERIENCE

FM-Sequential Decision Making & Efficient Goal Driven Behavior Intern (Python, SQL, LLMs) <i>IBM</i>	Yorktown Heights, NY <i>May 2025 – Aug. 2025</i>
- Developed QueryGym, a novel gym environment which allows a single LLM agent to iteratively gather contextual information and explore a database's characteristics/data distribution before formulating a query plan. - Adapted 10 public Text-to-SQL benchmarks for the QueryGym environment - Evaluated the Text-to-SQL accuracy of queries generated by 10 different LLM's using QueryGym - Improved the Text-to-SQL query generation accuracy of various LLM's by implementing an agentic approach which used multiple agents (SQL, feedback and repair agents) and logical query planning to repair incorrect queries.	
Graduate Teaching Assistant (Python, Java) <i>Colorado State University</i>	Fort Collins, CO <i>Jan 2023 – May 2023</i>
- Teaching assistant for CS165 Data Structures and CS150 Culture & Coding offered by the computer science department - Supported course instructors by tutoring students on course content, grading assignments, and handling course logistics	
AI & Planning Research Intern (Python, LLMs) <i>Naval Research Laboratory</i>	Washington, DC <i>June 2024 – Sept. 2024</i>
- Developed an automated Python pipeline which uses the Ollama and Codestral Large Language Models (LLMs) to convert raw code into valid Planning Domain Definition Language (PDDL) actions for AI planning tasks - Created and tested custom Minecraft-specific PDDL domains on the pipeline, validating its functionality across various scenarios - Produced a technical report summarizing experimental results from the pipeline, and highlighting the limitations and capabilities of LLMs for tasks related to PDDL generation and beyond	
Data Science Intern (Python, SQL) <i>Mountain Data Group</i>	Fort Collins, CO <i>May 2023 – Aug. 2023</i>
- Researched, collected and preprocessed higher education data from various sources for analysis - Developed and implemented machine learning algorithms using Python and SQL to extract valuable insights from client data - Communicated findings and insights using data visualizations and presentations to aid in client decision-making	

Content Author (CSS, HTML, PHP, JavaScript, Jira, PowerBI)**Saint Louis, MO***Anbeuser-Busch, Draftline Creative Tech Team**Jan. 2021 – Jan. 2022*

- Spearheaded the end-to-end lifecycle and maintenance of custom, client-facing Adobe Experience Manager, Drupal and Hugo websites using **CSS, HTML, PHP and JavaScript** for 50+ national brand managed websites
- Implemented **website analytics dashboards using PowerBI** to monitor and provide statistics on incoming sales, social media outreach, and full web traffic for client websites and team Jira tickets
- Designed **website brand guides using Adobe Photoshop and Illustrator** for client development projects in cooperation with the Draftline Creative Tech team

Web Developer and Content Coordinator (Wordpress, CSS, HTML, Javascript, Adobe Suite)**Saint Louis, MO***Muv Marketing**Nov. 2018 - Dec. 2020*

- Designed and coded numerous **Wordpress websites using CSS, HTML, PHP, JavaScript**, various Wordpress plugins (Jetpack, Gravity Forms, Elementor, etc.) and the **Bootstrap framework**
- Produced original social media content (written, digital, video) using **Airtable, Lingo, Hootsuite, and the Adobe Suite** across several networking platforms (Instagram, Facebook, etc.) for clients
- Drafted custom emails in **Emma, Mailchimp, and SendGrid**, and **executed A/B testing** to generate the highest user engagement for various client email marketing campaigns
- Created **marketing dashboards using Google Data Studio** to track sales, social media imprints, and web traffic for client products and websites
- Assembled client **content libraries** with organized brand assets and ecommerce materials for marketing/design projects using **Lingo**
- Facilitated multiple Saint Louis StartUp Grind monthly meetups focused on educating, inspiring, and connecting entrepreneurs

Producer (Final Cut Pro, Adobe Premiere Pro, Book Writing/Editing and Video Production)**Saint Louis, MO***What Drives Winning**Jan. 2016 - Oct. 2018*

- Video edited and assisted with filming over **200+ field and live interviews** of elite athletes, college coaches, and thought leaders
- Served as editor for numerous nonfiction books and workbooks pertaining to human performance, character development, and sport
- **Restructured and redesigned pages** of the What Drives Winning website to follow more intuitive **human-computer interaction design principles** and help with internal company initiatives and events
- Constructed a What Drives Winning **video library using Vimeo** to organize all digital content and streamline the video editing and publishing process
- Produced teaser videos using **Final Cut Pro and Adobe Premiere Pro** for the What Drives Winning website, social media accounts, and weekly newsletter
- Curated content for and managed the What Drives Winning Coach's Lab, an online course portal for coaches and athletic directors
- Organized and **executed logistics** for multiple What Drives Winning Conferences that brought together championship-level coaches to discuss what drives their success

EXTRACURRICULAR ACTIVITIES

- Team Member, StartUp Grind (August 2019 - December 2020)
- Video Producer, WashU McKelvey School of Engineering (August 2014 - May 2015)
- Team Member, Division II Basketball at UMSL (May 2011 - May 2013)
- Board Member, SAAC (Student-Athlete Association Council, 2013)

SELECTED PUBLICATIONS

- Sikes, K., Keren, S., & Sreedharan, S. (2026). Reducing Goal State Divergence with Environment Design. *Proceedings of the AAAI Conference on Artificial Intelligence*, 40(21), 17715–17723.
- Sikes, K., Sreedharan, S. (Under Review). Do You Even Know What I Want? Improving LLMs Ability to Detect Hidden User Intent. In *Workshop on Human-Aware and Explainable Planning*. ICAPS. 2026.
- Sikes, K., Pettit, N., Zarestky, J., Blanchard, N., Sreedharan, S. (Under Review). Am I asking the right question? Studying the Role of Assessment Questions in Adaptive Tutoring Systems. *Posters and Late Breaking Results, Workshops and Tutorials, Industry and Innovation Tracks, Practitioners, Doctoral Consortium, Blue Sky, and WideAIED*. AIED 2026.
- Ananthakrishnan, H., Kokel, H., Sikes, K., Bhattacharjya, D., Katz, M., Sohrabi, S. & Srinivas, K. (2026). QueryGym: Step-by-Step Interaction with Relational Databases. In *Demonstration Track at AAAI*.

- Sikes, K., Fine-Morris, M., Sreedharan, S., Smith, L., and Roberts, M. (2025). Creating PDDL Models from Javascript using LLMs: Preliminary Results. In *Workshop on Planning in the Era of LLMs* at AAAI.
- Sikes, K., Fine-Morris, M., Sreedharan, S., and Roberts, M. (2024). Traversing the Linguistic Divide: Aligning Semantically Equivalent Fluents Through Model Refinement. In *Workshop on Knowledge Engineering for Planning and Scheduling* at ICAPS 2024.
- Pickard, W., Sikes, K., Jamil, H., Chaffee, N., Blanchard, N., Kirby, M. & Peterson, C. (2023). Exploring fMRI RDMs: Enhancing Model Robustness Through Neurobiological Data. *Frontiers in Computer Science*.

ACADEMIC AWARDS

- The Mark McDonough Memorial Scholarship, UMSL Communications Dept. (Spring 2015)
- Dennis Bohnenkamp Scholarship, PLHC (August 2013)
- UMSL Chancellor's Scholarship (August 11 - May 2015)
- Pierre Laclede Honors College Scholarship (August 2011 - May 2015)

SKILLS & TECHNOLOGIES

Languages: Python, Java, Javascript, HTML, CSS, SQL, PDDL

Software and Tooling: Git, PyTorch, Tensorflow, Hugging Face, Scikit-Learn, Gymnasium, Pandas, Numpy, Matplotlib, Seaborn, PowerBI, Google Data Studio

Design: Adobe Suite (Photoshop, Illustrator, Premiere, etc.), Final Cut Pro, Wordpress, Adobe Experience Manager