Alex Morehead

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Education

University of Missouri — **Columbia, MO**
Ph.D. Computer Science | *Department of Electrical Engineering & Computer Science* — *August 2020 – May 2025*
• Research Interests: **Machine Learning, Bioinformatics, & Computer Vision**

Missouri Western State University — **Saint Joseph, MO**
B.S. Computer Science, Minor in Mathematics | *Department of Computer Science, Mathematics, & Physics* — *August 2016 – May 2020*
• **Cumulative GPA: 4.0 / 4.0; Major GPA: 4.0 / 4.0; Summa Cum Laude;** General Studies Honors Program

Work Experience

University of Missouri — **Columbia, MO**
Graduate Research Assistant | *Bioinformatics & Machine Learning (BML) Lab* — *August 2020 – Present*
• Research machine learning and its applications in bioinformatics and computer vision.

Altec, Inc. — **Saint Joseph, MO**
Software Development Intern | *Service Team* — *August 2018 – Present*
• Reduce miscommunication between service centers globally by engineering new Angular web applications
• Maintain the testing environments of in-house applications by writing LINQ queries and tuning up test databases
• Build secure back end APIs with the Spring framework in an agile development setting

Indiana University–Purdue University Indianapolis — **Indianapolis, IN**
Undergraduate Research Assistant | *Department of Computer & Information Science* — *June 2019 – August 2019*
• Effectively contributed to a private repository for the department's NSF-funded 2019 Data Science REU
• Authored an SMS alert pipeline using TensorFlow Lite models on Raspberry Pi microcomputers
• Precisely recorded findings of the gunshot sound detection project in a LaTeX manuscript

Missouri Western State University — **Saint Joseph, MO**
Undergraduate Research Assistant | *Department of Computer Science, Mathematics, & Physics* — *May 2018 – August 2018*
• Successfully developed and maintained a GitHub repository of mathematical applications to synthetic biology
• Produced the open-source desktop application *Variant Sampler* for modeling the sample space of *in vitro* experiments
• Accurately documented all source code generated for the department's NSF-funded 2018 summer research project

Publications

• Owen Koucky, Jacob Wagner, Sofia Aguilera, Benjamin Bashaw, Queena Chen, Anthony Eckdahl, Elise Edman, Paul Gomez, Nick Hanlan, Nick Kempf, Devin Mattoon, Sam McKlin, Christopher Mazariegos , **Alex Morehead**, Shi Qing Ong, Andy Peterson, Maria Rojas, Kyla Roland, Kaitlyn Schildknecht, Haley Seligmann, Kaden Slater, Ali Tauchen, Raechel Tittor, Tatianna Travieso, Dannie Urban, Caroline Willis, John Zhou, Nicole L. Snyder, Laurie J. Heyer, Jeffrey L. Poet, Todd T. Eckdahlb, A. Malcolm Campbell. *Synthetic Biology Bicistronic Designs Support Gene Expression Equally Well in vitro and in vivo*. In press at the American Journal of Undergraduate Research (AJUR).

• **Alex Morehead**, Lauren Ogden, Gabe Magee, Ryan Hosler, Bruce White, and George Mohler. *Low Cost Gunshot Detection using Deep Learning on the Raspberry Pi.* Published with the 2019 IEEE International Conference on Big Data.

Skills & Interests

• Languages/technologies: Proficient in Java, Python, C; familiar with R, C#, C++, SQL, HTML, CSS. Previously used Angular, Django, NumPy, & Jupyter. Experienced with Git, Unix/Linux, Spring, Unit Testing, Web Services, Design Patterns, Deployment, & Security.
• Finished both the full & half marathons in Kansas City.
• Proficient in written and spoken Chinese and Japanese.

Honors & Awards

• **Outstanding Graduating Student** – 1st ranked undergraduate computer science student at Missouri Western — *May 2020*
• **Floyd Tesmer/Strayer University Prize in Computer Science and Engineering** – 1st place undergraduate poster — *April 2019*
• **Alpha Chi Region IV Scholarship** – Received $500 for demonstrating thoughtful computer science scholarship — *April 2019*