Grant Konkel

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Summary — Computer Science graduate with an AI concentration and a secondary major in Mathematics. Experienced in data analysis, machine learning and computer vision, with AI research in spatial transcriptomics and applied mathematical modeling. Seeking roles in machine learning, applied AI research, or data science.

Skills

Tools:	Python, MATLAB, C, Java, R, ArcGIS, SolidWorks, Blender, Power BI, Tableau, Excel
Mathematics:	Numerical Analysis, Real Analysis, Complex Analysis, Abstract Algebra
Probability:	Statistics, Sequential Decision Making
AI:	Artificial Intelligence, Machine Learning, Computer Vision, Computational Perception

Experience

Case Western Reserve University — Jan 2025 – May 2025
Teaching Assistant (Computational Perception)

– Held weekly office hours to answer questions regarding grading, lectures, and class expectations
– Graded students assignments and quizzes, provided feedback, and pointed students to areas for improvement
– Attended weekly meetings with the professor to highlight common questions
– Aided in lesson planning and creating curriculum goals

Case Western Reserve University — Jan 2024 – Jan 2025
Undergraduate Researcher (Artificial Intelligence/Mathematics)

– Researched deconvolution methods for Spatial Transcriptomics data using machine learning and matrix factorization
– Created Spatial Transcriptomics Learned Non-negative Matrix Factorization (STL NMF), a method of applying unrolled regularized Non-negative Matrix Factorization techniques onto Spatial Transcriptomics data
– Demonstrated that STL-NMF outperformed existing methods in identifying cell-types and localizing cancer regions
– Presented work at the **Joint Mathematics Meetings (JMM)** in Seattle, January 2025
– Wrote and submitted *Unrolling Regularized Non-negative Matrix Factorization for Spatial Transcriptomics Data* to the International Conference for Image Processing (ICIP)

Donald Danforth Plant Science Center — Jan 2021 – May 2021
Software Developer (Data Analysis)

– Contributed to the PlantCV open-source Python library for high-throughput plant phenotyping
– Debugged and extended image analysis functions, including plant image segmentation
– Wrote documentation and unit tests to improve usability and code reliability
– Listed author on *PlantCV v4: Image analysis software for high-throughput plant phenotyping*

Education

Case Western Reserve University — 2021 – 2025
Bachelor of Science in Computer Science (AI concentration) — *GPA 3.75/4.0*
Secondary Major: Mathematics

Projects

WWT Hackathon — 2017 – 2018

– Coding lead as a Freshman in HS
– Created $\approx 80\%$ of our code
– Team won 1st place and a \$10,000 prize for our high school.

Certifications

IBM

– Data Analysis with Python
– Statistics 101
– Deep Learning Fundamentals
– IBM Cloud Essentials

Kaggle

– Time Series
– Feature Engineering
– Advanced SQL
– Computer Vision

Misc.

– HackerRank Problem Solving
– Simplilearn Power BI
– GreatLearning Excel