Kevin Berry

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EDUCATION

Georgia Institute of Technology, B.S. Computer Science — Aug 2015 - Dec 2018
Selected Coursework: Machine Learning, Linguistics, Computer Vision, Compilers, Linear Algebra
Extracurriculars: Communications officer for The Agency (ML/AI club) and Big O (Theoretical CS club)
GPA: 3.96/4.0

SKILLS

Programming Languages:	Python, Rust, JavaScript, C
Tools:	PyTorch, pandas, networkx, scikit-learn, Docker, Git, Azure, SQL, MongoDB, LaTeX
Human Languages:	English (fluent), Portuguese (intermediate), Spanish (intermediate)

EXPERIENCE

Machine Learning Engineer — Jun 2017 - Present
Worthix — *Alpharetta, GA*
Here, my goal was to help companies understand customer feedback. I have been responsible for designing, developing, deploying, monitoring, and maintaining a wide variety of tools to accomplish this goal. I recruited and currently direct a small team which works on these tasks with me. The following are some highlights of my individual contributions:

- Developed and trained NLP models and API for real-time survey response topic classification
- Developed proof-of-concept LLM-based API to automate granular feedback analysis and summarization
- Developed novel algorithms for large-scale unsupervised graph classification
- Developed queries and statistical analyses for client-facing dashboards
- Deployed and monitored APIs and applications as scalable microservices in Azure
- Conducted scientific experiments to improve survey data and model quality
- Developed fast Monte-Carlo Shapley value approximation for calculating response topic importance
- Developed reverse-geolocation API capable of resolving millions of point-in-region queries per second
- Contributed Python code to networkx which massively improved performance for graph unions and intersections
- Contributed Rust code to polars dataframe library which solved infinite loop in core groupby operations

Teaching Assistant — May 2016 - Dec 2017
Computer Organization and Programming (CS 2110) — *Atlanta, GA*

- Led recitations on C, Assembly, CPU datapaths, and digital logic
- Wrote software to automate grading of Java programs and circuits

PROJECTS

Ray Tracing Reverb (Rust): Wrote a library which can use ray tracing to generate acoustic profile for room geometries. Applies acoustic profiles to recorded audio using FFT convolution to create a reverb effect. (Github)

image-to-ascii (Rust): Uses computer vision techniques to convert images and gifs to ASCII art. Capable of converting 120+ images per second. Uses hand-coded SIMD instructions for improved performance. (Github)

Readability Analyzer (JavaScript): Assigns average text grade level based on standard readability metrics. Uses MLP with hand-engineered features to count syllables. Can analyze 2,000,000+ characters per second. (Web App)

Vertex Cover Algorithms (Python): Implemented algorithms to solve minimum vertex cover problem. Developed a fast approximation algorithm which achieved state of the art accuracy on 10 out of 11 real-world datasets. (Github)

Ivan Allen Digital Archive Graph (JavaScript, Go): Search interface, visualizations, and editable transcripts for document archive. Used Tesseract and spaCy to extract and tag text in document graph. (Web App)