Dylan Wilson

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LinkedIn · GitHub · Blog
Python · C · Java · R

Education

Dartmouth College, Hanover, NH **June 2027**
Bachelor of Arts, Major in Mathematics: Minor in Psychology and CS: **GPA 3.8/4.0**

Work Experience

Primer.ai, Washington, DC **June 2024 - September 2024**
Software Engineer

- Revitalized a stalled SBIR II DoD contract by reengineering the backend (20k+ lines of quality code over 900 hours).
- Converted a minimal prototype into an enterprise-grade solution, securing a rare SBIR III contract and millions in funding.
- Collaborated with sales, UI, and DevOps teams to enable product licensing and global deployment.
- Developed tools for prompt evaluation and LLM performance, aligning the project with company objectives.

Neuroeconomics Lab (Caltech), Pasadena, California **June 2022 - November 2023**
Researcher

- As the first high school researcher in Professor Antonio Rangel's lab, I examined the Pareto hypothesis in academic research by scraping 600k Google Scholar articles making it among the largest citation datasets available.

Virtualitics, Pasadena, California **June 2021 - September 2021**
Researcher

- Developed software to visualize variable impacts on output confidence, neural network learning progression, and variable importance, allowing users to develop a deep understanding of how neural network 'black boxes' work.
- Completed security training for DOD projects.

Quantum Realm Games, Pasadena, California **June 2021 - September 2021**
AI Engineer 2021

- Developed minimax algorithms for quantum chess in collaboration with a Caltech/Google team.

Supply Frame. Pasadena, California **June 2020 - September 2020**
AI Researcher

- Developed deep learning algorithms for question answering on part specs and engineering articles, using BERT and CNN's.

Scratch Financial, Pasadena, California **June 2019 - July 2019**
Data Scientist

- Researched alternative machine learning algorithms for analyzing debt risk, contributing to more accurate risk assessments.

Additional Experience

Poplar Forest Capital, Pasadena, California **July 2019 - September 2019**
Analyst

- Developed quantitative models for stocks projected to benefit from growth in the data industry.

Volunteering, Pasadena, California **July 2019 - Present**
Teacher

- Design and taught classes on data science and ML for STEAM CODERS, Caltech STEM for Families and Upward Bound

Publications/Projects

- **Wilson, D.** (June 2024). *LLM Tree Search: Confidence-Based Sequence Generation for Enhanced LLM Output*. Introduced a search tree approach using model confidence to improve sequence generation, achieving a 20% boost in human evaluation for the 3.5 Phi Mini model.
- **Wilson, D.** (2020, February 12). *Distance-Based Regression: Mitigating Overfitting for Enhanced Predictive Accuracy*. Introduced a regression method improving prediction accuracy by 6% over traditional models like Lasso, with practical applications.
- Lang2Logic: Developed a Python package with over 5,000 downloads that translates natural language into structured Python objects, enabling language models to interact with logic and facilitating self-referential LLM applications.