Taj Gillin

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EDUCATION

Brown University | Providence, RI | May 2026
GPA: 4.0
Physics, Biological Track (ScB); Applied Math-Computer Science (ScB)

- Coursework and descriptions available on personal website
- Defenseman for club ice hockey, Brown Design Workshop monitor, aspiring salsa dancer

PROFESSIONAL EXPERIENCE

Five Rings **Jun 2025 - Aug 2025**
Quantitative Trading Intern *New York, NY*

- Used rigorous quantitative and data analysis skills to complete a research and development project
- Participated in mock trading to obtain familiarity with how the market operates at the level of individual orders
- Competed in an automated trading strategy and design competition
- Received classroom-style instruction on a wide range of financial concepts and daily mentorship from full-time Quantitative Traders

Brown University Computer Science **Jan 2024 - Dec 2024**
Teaching Assistant *Providence, RI*

- Developed curriculum for a new course, Foundations in AI (CSCI0410/1411), alongside professors and TAs
- Taught and helped undergraduate and graduate students build a strong conceptual understanding of difficult topics in Foundations of AI and Deep Learning (1470/2470), and gained fluency in the taught content

Architect Therapeutics **Jun 2024 - Nov 2024**
Software Engineer *San Diego, CA, f.b. Remote*

- Drove computational research to accelerate compound discovery of new chemical space using sp3 CH activation
- Developed computational algorithms for hit discovery and lead optimization, leveraging computer-aided drug design (CADD) and statistical approaches for series data pattern detection and cross-sample anomaly detection
- Designed and implemented a web-based computational management platform that streamlines job scheduling, computation tracking, and results visualization, used as the central platform in the company by all chemists and biologists

RESEARCH EXPERIENCE

CMS Experiment Research at CERN **May 2025 - Present**
Undergraduate Researcher *Providence, RI*

- Developing modern jet classification techniques using graph neural networks on e^+e^- LEP data
- Future application to the FCC project by demonstrating support for algorithms and collider physics on simulated data
- Collaborated with researchers at CERN to create reproducible and readable code and results

Singh Lab Research **May 2024 - November 2024**
Undergraduate Researcher *Providence, RI*

- Explored novel strategies for identifying drug-drug interactions using LLM approaches through systematic experiments with machine learning techniques, including fine-tuning, retrieval-augmented generation, knowledge graphs, and graph network analysis
- Developed data extraction and sanitization protocols, utilizing techniques such as web scraping with Puppeteer to aggregate and process complex research datasets

PROGRAMMING | Projects

Knowledge

- **Languages**: Python, JS/TS (Advanced), C++, C, Java, Go (Intermediate), Pyret, Racket (Basic)
- **Frameworks**: Web: React, Next, FastAPI, Django | ML: PyTorch, TensorFlow
- **DevOps**: Docker, Unix, Shell Scripting
- **Databases**: MongoDB, Redis, SQL (MySQL, Postgres)
- **Fields**: Deep Learning, Machine Learning, Reinforcement Learning, Parallel Computing

OTHER

Medicine: Nationally Certified EMT-B; OSHA, HIPAA, BLS, ACLS certified
Interests: guitar, reading, photography, puzzles, Legos, ice hockey, lacrosse, snow skiing