

# Taj Gillin

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## EDUCATION

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**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](http://personal website)
- Defenseman for club ice hockey, Brown Design Workshop monitor, aspiring salsa dancer

## PROFESSIONAL EXPERIENCE

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**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 sp<sup>3</sup> 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

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**CMS Experiment Research at CERN**

**May 2025 - Present**

*Undergraduate Researcher*

*Providence, RI*

- Developing modern jet classification techniques using graph neural networks on e<sup>+</sup>e<sup>-</sup> 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 | [tajgillin.com](http://tajgillin.com)

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### 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

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**Medicine:** Nationally Certified EMT-B; OSHA, HIPAA, BLS, ACLS certified

**Interests:** guitar, reading, photography, puzzles, Legos, ice hockey, lacrosse, snow skiing