

# John Jeang

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## EDUCATION

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TUFTS UNIVERSITY, Medford, MA  
**Computer Science PhD program**

**Aug. 2024 – Present**  
Cumulative GPA: 4.0

HARVEY MUDD COLLEGE, Claremont, CA  
**Bachelor of Science, Physics**

**Aug. 2015 – May 2019**  
Cumulative GPA: 3.75

▪ **Honors:**

- Graduation with High Distinction
- Dean's List (all eligible semesters)
- Physics Departmental Honors

HARVARD EXTENSION SCHOOL, Cambridge, MA

**Sept. 2023 – Dec. 2023**

- Advanced Machine Learning, Data Mining, and Artificial Intelligence

## RESEARCH EXPERIENCE

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TUFTS UNIVERSITY, Medford, MA  
**PhD Student**

**Aug. 2024 – Present**

- Precisely quantify competitive ratio of efficient online algorithms
- Measure capability of low-depth quantum circuits
- Exploring the expressivity of neural networks using tropical geometry
- Analyze compression codes created from communication protocols

DANA FARBER CANCER INSTITUTE, Boston, MA  
**Bioinformatics Analyst**

**Jan. 2022 – Jul. 2024**

- Characterized tumors by cellular composition and biological pathways to understand possible therapeutic targets in pediatric brain tumors
- Analyses have led to two first author papers and contributing to three additional manuscripts
- Developed quantitative techniques for testing mechanisms of cancer development
- Lead Broad Institute Data Bootcamp to teach non-computational post-doctorate researchers fundamental data analysis techniques
- Managed data pre-processing pipeline to ensure quality control
- Used spatial transcriptomics to investigate how the tumor microenvironment affects gene expression
- Identified tumor genetic driver mutation at base-pair resolution

HARVEY MUDD COLLEGE, Claremont, CA

**Senior Capstone Clinic Project (in collaboration with HRL Laboratories)**

**Aug. 2018 – May 2019**

- Built algorithm to electrostatically tune quantum dots to make qubits for quantum computers
- Used deep reinforcement learning to set electrode voltages to confine electrons to potential wells

- Simulated Q-plate with programmable Liquid Crystal Display (LCD) to explore quantum entanglement
- Designed experimental setup to study the orbital angular momentum (OAM) of a collection of photons using MATLAB to program custom filters

## PUBLICATION & MANUSCRIPTS

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- Jacobs, D., Jeang, J., Podolskii, V., Prior, M., & Volkovich, I. (2025). Communication Complexity of Equality and Error-Correcting Codes. In *45th LARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS 2025)*
- Prince, E., ..., **Jeang, J.** et al., Unraveling the Complexity of the Senescence-Associated Secretory Phenotype in Adamantinomatous Craniopharyngioma using Multi-Modal Machine Learning. *Neuro-Oncology*.
- Apfelbaum, A. ..., **Jeang, J.** et al., A diverse landscape of FGFR iterations and co-mutations suggest potential therapeutic strategies in pediatric low-grade gliomas
- Rendo, V., ..., **Jeang, J.** et al., Window of opportunity trial reveals mechanisms of response and resistance to navtemadlin in patients with recurrent glioblastoma
- **Jeang, J.**, et al., (in preparation). Resolving the genetic landscape of pediatric Adamantinomatous Craniopharyngiomas and the effects of a dense collagen microenvironment
- **Jeang, J.**, Boisvert, M., Perera, A., Condurat, L., Novikov, D., Bandopadhyay, P., Beroukhim, R. Understanding the transcriptional heterogeneity of pediatric low-grade gliomas and its implication for tumor pathophysiology.
- Azazmeh, N., ..., **Jeang, J.** et al., (in preparation). A-MYB/MYBL1 promotes states in neural cells: A novel actor in the CNS at the intersection of development and pediatric disease.
- Tsai, J., ..., **Jeang, J.** et al., (in preparation). The effects of FOXR2 in pediatric brain tumors: a possible therapeutic target (working title).

## PRESENTATIONS

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- **Jeang, J.** (2025, December 17<sup>th</sup>). Communication Complexity of Equality and Error correcting codes. In *45th LARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS 2025)* [Oral presentation]
- **Jeang, J.** (2025, October 12<sup>th</sup>). Communication Complexity of Equality and Error correcting codes. 8<sup>th</sup> Eastern Great Lakes theory of computation workshop. [Poster presentation]
- **Jeang, J.** (2023, April 4). Multimodal characterization of Adamantinomatous Craniopharyngiomas. 2<sup>nd</sup> Biannual joint retreat on brain tumor biology between Dana Farber Cancer Institute, Broad Institute, and McGill [Oral presentation]
- **Jeang, J.** (2023, December 11). Non-cell autonomous growth in Adamantinomatous Craniopharyngiomas stimulated by signaling interactions with the tumor microenvironment. PLGA retreat at the Dana Farber Cancer Institute. [Poster presentation]
- **Jeang, J.**, Boisvert, M. (2023, December 6). A cellular characterization of various pediatric Low Grade Glioma subtypes. [Oral presentation]

## CONFERENCE/SYMPOSIA ATTENDED

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- ACM-SIAM Symposium on Discrete Algorithms (Jan. 10-14, 2026)
- 45th IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science (Dec. 17-20, 2025)
- 7<sup>th</sup> Eastern Great Lakes Theory of Computer Science Workshop, Buffalo, NY (Oct. 5-6, 2024)
- 8<sup>th</sup> Eastern Great Lakes Theory of Computer Science Workshop, Rochester, NY (Oct. 11-12, 2025)
- Levin 75 Conference, Computing on the Dark Side, Boston, MA (Jul. 10-11, 2024)
- 20<sup>th</sup> International Symposium on Pediatric Neuro-Oncology, Hamburg, Germany (Jun. 12-15, 2022)
- 2<sup>nd</sup> DFCI-Everest Retreat on Pediatric Low-Grade Gliomas, Dedham, MA (Nov. 11-12, 2022)
- Dana Farber Cancer Institute PLGA retreat, Boston, MA (Dec. 11, 2023)

## WORK EXPERIENCE

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IMC FINANCIAL MARKETS, Chicago, IL

Aug. 2019 – Mar. 2021

### Quantitative Trader

- Optimized automated trading system and adapted to dynamic market conditions
- Created predictive models for trading equities and ETFs using historical market data
- Synthesized news events and corporate actions to manage trading portfolio
- Analyzed risk and conducted “worst-case” simulations to evaluate the cost and benefits new trading strategies

JANE STREET CAPITAL, New York, NY

May 2018 – August 2018

### Trading Intern

- Built automated trading bot, and manually traded in various scenarios including ETF creation/redemption, ADR arbitrage, and options on mock exchange
- Analyzed the effects of dividends on a stock’s future trajectory

## CLUBS

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BOSTON COMPUTING CLUB, Boston, MA

July 2023 – Present

- Discuss computational topics via virtual presentations

VARSITY SWIM COACH AT MIT, Cambridge, MA

September 2023 - Present

- Create workouts to prepare undergraduate swimmers for NCAA championships
- Provide technical feedback

## TECHNICAL SKILLS & INTERESTS

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- **Technical Skills:** Advanced Math topics including Algorithms, Complexity Theory, Abstract Algebra, and Quantum Information Science. Programming (Python, Qiskit, SQL, R, C++, JavaScript), Single-cell transcriptomics analysis, data integration, identification of single nucleotide polymorphisms
- **Language Skills:** Fluent in French
- **Interests:** Stand-up comedy, poker, game theory, teaching, mentoring, strategy games, swimming, running, tennis, weight lifting, rock climbing, and investing