

BRIAN WU

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Education

Stanford University <i>Master of Science in Computer Science (AI + Autonomous Systems/Robotics)</i>	Jan. 2023 – Jun. 2025 <i>Stanford, CA</i>
Stanford University <i>Bachelor of Science in Computer Science (Artificial Intelligence Track) & EE; GPA: 3.8/4.0</i>	Sep. 2020 – Jun. 2024 <i>Stanford, CA</i>
Horace Mann School <i>GPA: 3.95/4.00</i>	Sep. 2016 – Jun. 2020 <i>Bronx, NY</i>

Relevant Coursework

- Data Structures & Algorithms
- Electrical Engineering
- Linear Algebra
- Multivariate Calculus
- Probability Theory
- Special Relativity
- E&M + Waves
- Vector Calculus
- Discrete Math
- Investment Science
- AI Foundations
- Deep Learning and NLP
- Deep Meta-Learning
- Computer Systems
- Database Design

Experience

Apple **Jun. 2024 – Present**
Machine Learning Architect Intern
Cupertino, CA

- AI/ML: Developing model architectures and compression methods for machine translation tasks and products.

Invisio AI **Jun. 2023 – Jun. 2024**
Technical Lead
Palo Alto, CA

- Prototyped and constructed nano UAVs for automated data collection across a variety of industries using open-source microcontroller architectures at less than \$500.
- Implemented a real-time operating system in C/C++ for a single processor with low latency and efficient energy usage, allowing for flight time to reach 10 minutes per charge.
- Enabled zero-shot task specification using a mixture of experts of Foundation Models for a variety of autonomous flight tasks and operations.
- Implemented object tracking and detection visual models, allowing for sub-second inference per frame and detailed tracking on low-resolution grayscale images.

Franca.AI **Jan. 2023 – May 2023**
Founding Partner
Palo Alto, CA

- Franca contracts with companies to help them integrate Large Language Models within their existing suite of products.
- Served three venture-backed startup clients within the first two months of operation, becoming profitable after this point.

Millennium Management, LLC. **Jun. 2022 – Sep. 2022**
Quantitative Strategies and Trading Intern
New York, NY

- Member of the Centralized Research Team, which develops high-quality signals to assist trade execution teams.
- Hired as the first researcher to work on cutting-edge NLP on corpuses of financial text data of various levels of structuredness, which exhibited statistically significant improvements in signal performance during backtesting.
- Created embedding models and large language models with custom-engineered features on SEC 10K/10Q filings, earnings transcripts, and analyst reports. Achieved accuracy of ~94% on out-of-sample data on various text classification tasks.
- Used trained models to develop a predictive signal pipeline incorporating a continuous stream of financial text data, which are currently used by all researchers within the team for signal generation within U.S. equity markets.

Soma Capital **Apr. 2022 – Jun. 2022**
Fellow
San Francisco, CA

- One of 25 entrepreneurs in Soma Capital's inaugural fellows cohort; received \$100K in funding to build in SpaceTech.
- Co-founder of Daelus Space - a DeepTech Robotics startup, currently backed by Soma Capital as of April 2022.

Romulus Capital **Feb. 2021 – Jan. 2022**
Associate
Boston, MA

- Co-led due diligence on Reconstruct's Series B deal (\$17.3M). Lead associate for Soil Connect's Seed round (\$2M).
- Developed an investment thesis for Construction Tech startups operating in the cost-estimation and bidding spaces.
- Explored thesis-driven sourcing, financial modeling, competitive & landscape analyses, and term sheet construction.
- Led tech integration efforts, including a financial benchmarking platform for Construction Tech companies.

Vitol **Apr. 2020 – Aug. 2021**
Co-Founder *Montreal, QC, Canada*

- Drone delivery startup for humanitarian relief using autonomous, low-cost additively manufactured VTOL drones.
- Modeled aerodynamic behavior using CFD in MATLAB and ANSYS. Built vision platform for obstacle detection.
- Led business, strategy development, & operations, with significant involvement in community/customer outreach.

University of Florida, Department of Astronomy **Jun. 2017 – Jun. 2020**
Researcher *Gainesville, FL*

- Created and applied innovative mathematical models on Radial Velocity data from the SDSS-III MARVELS survey to discover a Tatooine-like Circumbinary Planet (a planet orbiting two suns), the first found using Doppler Spectroscopy.
- Developed synthetic spectra generation software using Python and MATLAB. Performed N-body & Markov Chain Monte Carlo simulations to confirm the Circumbinary Planet.
- Based on the U-Net architecture, constructed a Radial Velocity extraction neural network using TensorFlow and a forward modeling (FM) pipeline to calculate the circumbinary planet's orbital parameters using MATLAB. Network outputs allowed for calculations of original orbital parameters within ~5% on out-of-sample synthetic data.

Selected Achievements & Awards

Regeneron Science Talent Search (STS) Top 40 Finalist **Mar. 2020**

- STS is the nation's oldest and most prestigious science research competition.

Davidson Fellows Scholarship **Sep. 2019**

- Selected as 1 out of 20 nationwide fellows in the fields of Science, Technology, Engineering, and Mathematics.

Intel ISEF – Top Award from the National Aeronautics & Space Administration **May 2019**

- Invited by NASA's Associate Chief Scientist Dr. Louis M. Barbier to present research at NASA and in a TEDx Talk.

Siemens Competition in Math, Science & Technology Semifinalist **Oct. 2017**

Projects

MARA: Modular self-Assembling Robotic Architecture **Dec. 2023 - Present**
Autonomy Engineer *Stanford, CA*

- Self-assembling modular robotic system designed for mass maneuverability and maneuverability for Space.

Trading Algorithms Leveraging Simple Discrete State-Space Models **Apr. 2023 - Jun. 2023**
Visiting Scholar, University of Oxford *Oxford, Oxfordshire, United Kingdom*

- Developed and evaluated a variety of alpha-generating trading algorithms inspired by the SpaceTime (Simple Discrete State-Space Models) architecture introduced in Zhang et al. 2023 (Stanford Hazy Research). Research conducted as part of a tutorial in Quantitative Economics (focusing on AI and Finance) at the University of Oxford.

DroneFormer **Feb. 2023**
Autonomy Engineer *Stanford, CA*

- A framework and experiment to control UAVs using natural language. DroneFormer turns high-level natural language commands into long scripts of low-level drone control code leveraging advances in language and visual modeling. The interface is the simplest imaginable (using natural language alone), yet the applications and end result can adapt to the most complex real-world tasks. Received Top Award at Stanford TreeHacks 2023.

CUREONA/SFIInnovations **Mar. 2020 - Apr. 2020**
Co-Founder & Systems Engineer *Montreal, QC, Canada*

- Worked with a multinational team to create a fully-automated, 3D printed, DFM & DFA focused mechanical respirator using pressure differentials over 60% cheaper than existing designs for the Montreal General Hospital Foundation.

Technical Skills

Languages: C, C++, Python, MATLAB, SQL, IDL, Rust, C#, JavaScript

Developer Tools: Google Cloud Platform, Amazon AWS, Microsoft Azure, HTML, Node.js, Vue.js, Grafana

Technologies/Frameworks: TensorFlow, PyTorch, Keras, OpenCV, ANSYS, Blender, Unity 3D, AutoCAD, OpenSCAD

Foreign Languages: English (Native), Mandarin (Fluent), Cantonese (Fluent), Japanese (Business Proficiency)