# Aryansh Shrivastava

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## Education

**UC Berkeley College of Engineering, Haas School of Business** **Aug 2022 – May 2026**
*B.S. Electrical Engineering and Computer Sciences (EECS), B.S. Business Administration, Data Science Minor*
*EECS Honors*, *IEEE Eta Kappa Nu*, *Tau Beta Pi* *GPA 3.941*

**Selected Coursework**: Deep Reinforcement Learning, Machine Learning, Artificial Intelligence, Optimization Models, Algorithms

## Selected Skills

**Programming Languages**: C++, C, Java, Python, SQL, Bash, Swift
**Frameworks/Tools**: PyTorch, JAX, NumPy, Pandas, Scikit-Learn, Vim, Git

## Selected Experience

**Undergraduate Researcher, Robotic AI & Learning Lab @ BAIR** *Jan 2023 – Present*
Advised by Professor Sergey Levine. Themes: benchmarking and finetuning deception and negotiation in large language models, hierarchical dialogue reasoning, robotic navigation (see Projects and Publications)

**Project Backend Lead, Open Project Berkeley** *Sep 2025 – Present*
Collaborating with Professor Maryam Hosseini. Developing an iOS navigation app that suggests safe, efficient walking paths based on real-time crime data, utilizing pathfinding algorithms and computational geometry.

**Official Problemsetter (Platinum Contestant), USA Computing Olympiad (USACO)** *Mar 2022 – Feb 2024*
As a Platinum contestant in selection for the USA team for the International Olympiad in Informatics (IOI), authored problems to select our team and prepare prospective competitive programmers. Platinum, US Open 2023; Gold, February 2024; Gold, US Open 2023; Silver, Dec 2022; Bronze, Jan 2023; Bronze, Jan 2023; Bronze, US Open 2022 (not including unreleased contributions to training camp selection tests)
Themes: dynamic programming, trees, graph theory, sweep line, union-find, subsets, string processing, greedy, ad-hoc

## Selected Projects and Publications

**Hierarchical Agenda Reasoning for Long-Horizon Multi-Turn Dialogue Agents** *Feb 2025 – Present*
Introducing 30 real-world negotiation scenarios inspired by the Harvard Program on Negotiation to evaluate long-horizon dialogue. Developing a hierarchical control framework that augments LLMs with explicit higher and lower level state and action traces, outperforming instruction-tuned and ReAct-style baselines.

**Evaluating & Reducing Deceptive Dialogue From Language Models with Multi-Turn RL** [arXiv] *Oct 2023 – Oct 2025*
Proposed a novel method to quantify deception in LLMs that correlates more closely with human judgments than existing metrics. Benchmarked 8 SOTA LLMs across multiple dialogue scenarios and discovered deceptive behavior in 26% of interactions. Designed and implemented a multi-turn reinforcement learning pipeline that reduced deceptive behaviors by over 77% compared to baseline models.

**High-Speed Autonomous Robotic Navigation via Deep Reinforcement Learning** *Apr 2023 – Aug 2023*
Implemented an offline pretraining and online finetuning based deep reinforcement learning pipeline for high-speed autonomous robotic navigation in less than 20 minutes of online training, with minimal resets and human intervention.

**Engineering Projects on Disabilities and Diseases** *Jan 2016 – Mar 2022*

- Deep Neural Network Models on B/T Cell-Cancer Antigen Affinity for Targeted Cancer Drug Therapy and Diagnosis. [JSR]
- Brainwave Controlled, Robotic Intelligent Assistive Device for People with Spinal Injuries, Cerebral Palsy, and Amputation. [Preprint]
- Computer Vision Based, Face Gesture Controlled, Robotic Intelligent Device for People with Spinal Injuries and Cerebral Palsy. [Preprint]
- Computational Drug Design of Novel Small Molecule Inhibitors for Therapy in Pancreatic Ductal Adenocarcinoma. (Simons Research Fellow, Distinguished Professor Iwao Ojima) [Preprint]
- Microcontroller-Based, Programmable Elderly Healthcare Activity Monitoring System
- Microcontroller-Based Bionic Eye for the Blind

**The Art of Modular Arithmetic** *Aug 2023*
A nontraditional approach to modular arithmetic from the perspective of math competitions appealing to intuition and problem-solving, from personal experience as a top contestant in the American Invitational Math Exam (AIME). $0.99 on Amazon Kindle and free as a PDF.

## Selected Awards

**USA Computing Olympiad Platinum Division Contestant** *Jan 2022*
Top 3% of all international pre-college USACO participants (Top ∼300 computer science students in the world), using C++

**California State Science Fair First Place (2017), Honorable Mention (2016), Nominee (2016, 2017, 2020, 2021)** *Apr 2021*
Engineering Projects on Disabilities and Diseases.

**Alameda County Science Fair First Place / Grand Prize (2016, 2017, 2020, 2021)** *Mar 2021*
Engineering Projects on Disabilities and Diseases.