

James L. Wang

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Education

Columbia University | Columbia Engineering 2018 - 2022
Master of Science – Computer Science, Machine Learning Track May 2022
Bachelor of Science – Computer Science, Applied Mathematics (minor), GPA: 3.96/4.0 Dec 2021

- **Relevant Coursework:** Machine Learning, Computer Vision, Security and Robustness in ML, Topics in Robot Learning, Natural Language Processing, Deep Learning, Artificial Intelligence, Analysis of Algorithms, UI Design
- **Egleston Scholar:** Recognized as top 1% of Columbia Engineering applicants
- **Organizations and Activities:** Columbia Organization of Rising Entrepreneurs, Application Development Initiative, Engineering Student Council, Tau Beta Pi

Professional Experience

Software Engineer Intern | Capital One *Plano, TX | Jun 2021 – Aug 2021*

- Implemented a new core API service to analyze and dynamically allocate product experiences to maximize user conversion using reinforcement learning methods
- Built low-latency A/B testing framework and analytics dashboard using AWS CloudFront, Lambda@Edge, Snowplow, and Grafana to optimize user experience while collecting rich behavioral data
- Redesigned micro-frontend architecture for form flows and form components to seamlessly integrate with multivariate testing tools

Software Engineer Intern | Nemulous Capital *New York, NY | Jun 2020 – Aug 2020*

- Built tools and platforms for commodities hedge fund startup's core tech stack, bringing firm from zero to paper trading
- Architected collection of data pipelines containing web scrapers in Selenium, data processing, and integrated with quantitative models and core execution engine in Airflow
- Designed, tested, deployed core risk management and strategy back-testing system

Academic Experience

Teaching Assistant | Columbia University *New York, NY | Sep 2020 – Present*

- 7-time Teaching Assistant for Deep Learning in Computer Vision (DLCV), Computational Linear Algebra, Artificial Intelligence, and Computational Aspects of Robotics
- Graded assignments, proctored exams, attend weekly meetings, held office hours and recitation sections for class sizes of 50 – 300 students
- Advised students on final research projects and discussions on recent conference papers for DLCV

Research Assistant | Columbia University *New York, NY | Jan 2021 – Present*

- Formalized causality-based framework to unlearn spurious correlations for robust image classification
- Designed and executed experiments to validate methods outperforming existing benchmarks
- Publication: Causal Transportability for Neural Representations. *Submitted to CVPR* Chengzhi Mao, **James Wang**, Kevin Xia, Hao Wang, Junfeng Yang, Elias Bareinboim, Carl Vondrick

Research Mentor | iResearch Institute *New York, NY | Jun. 2021 – Aug. 2021*

- Developed a five-week curriculum for high school students with interests in medical imaging and machine learning
- Worked with students to develop data science and coding skills to tackle their own large-scale data-driven research
- Provided daily feedback on students' research progress and their verbal/written project presentations

Research Assistant | Memorial Sloan-Kettering Cancer Center *New York, NY | Jan 2019 – Aug 2020*

- Created self-supervised models for spatially resolved single-cell images to understand cancer cell gene expression
- Implemented and refined automated image processing pipelines across cell imaging domains for downstream analysis
- Publication: Signatures of plasticity, metastasis, and immunosuppression in an atlas of human small cell lung cancer Cancer Cell Joseph M. Chan, [...], **James Wang**, *et al*

Skills

Languages: Python, Java, C/C++, SQL/PostgreSQL, HTML/CSS, LaTeX | **Terminal:** UNIX, Bash, Vim, Git
Frameworks/Tools: Pytorch, Tensorflow/Keras, Scikit-Learn, Git, AWS, Google Cloud, React, Microsoft Office