

Patrick Batsell

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EDUCATION

Rice University

BS in Operations Research and Statistics, Minor in Data Science

Houston, TX

May 2027

- GPA: 3.96
- Coursework: Probability & Statistics, Linear Algebra, Deep Learning, Operations Research & Optimization, Stochastic Modeling, Linear Regression, Computational Thinking, Data Science and Machine Learning

RESEARCH EXPERIENCE

Rice University Electrical and Computer Engineering

Undergraduate Researcher — Supervised by Dr. Richard Baraniuk

Houston, TX

Oct 2025 – Present

- Exploring the Geometry of Training on Synthetic Data.

Rice University Jones School of Business

Undergraduate Researcher — Supervised by Dr. Amit Pazgal

Houston, TX

Feb 2026 – Present

- Working on developing a novel value-decomposition framework for discrete choice modeling, enabling interpretable analysis of context-dependent preferences and violations of IIA

Nanyang Technological University

Undergraduate Researcher — Supervised by Dr. Bihan Wen

Singapore

May 2025 – Sep 2025

- Built benchmark for evaluating fine grained classification in Vision Language Models; created synthetic dataset of 8,000+ images with controlled attributes and designed classification tasks to test color, size.

MD Anderson Cancer Center

Undergraduate Researcher — Supervised by Dr. Andrew Schaefer

Houston, TX

Jan 2025 – Feb 2026

- Working to discover cost parameters for treating *H. pylori*, gastric intestinal metaplasia, and gastric cancer.
- Reviewed 1,500+ research paper abstracts to assess relevance for systematic literature reviews on disease screening costs

PUBLICATIONS

[1] **Patrick Batsell**, Satoshi Tsutsui, and Bihan Wen, “Benchmarking Attribute Discrimination in Infant-Scale Vision-Language Models,” *CVPR 2026 Workshop on Cognitive Foundations for Multimodal Models*, 2026.

[2] **Patrick Batsell**, Thomas Walker, and Richard Baraniuk, “A Geometric Perspective on Recursive Synthetic Training,” *ICLR 2026 Workshop on Deep Generative Models*, 2026.

PROJECTS & AWARDS

Rice Datathon

2nd Place

Houston, TX

Feb 2025

- Built and evaluated four models (random forest, gradient-boosted trees, SVM, logistic regression) to identify patients with mental disorders from EEG signals, achieving 85% classification accuracy.

LEADERSHIP & INVOLVEMENT

Rice University Computational and Applied Math Department

Teaching Assistant

Houston, TX

Jan 2026 – Present

- Supported students in class and office hours, guiding them through optimization methods and problem-solving
- Graded assignments and reinforced core concepts through feedback and instruction

Rice University Statistics Department

Teaching Assistant

Houston, TX

Jan 2026 – Present

- Led weekly lab sections and guided students through solving biostatistics problems with code in R
- Graded assignments and designed classes to reinforce core skills.

Rice University Computer Science Department

Teaching Assistant

Houston, TX

Aug 2025 – Dec 2025

- Held weekly office hours and guided students through problem-solving strategies in Python.

- Assisted professors with grading assignments and designing practice problems to reinforce core skills.

Datathon

Director

Houston, TX
Oct 2023 – Feb 2024

- Secured and maintained sponsor relationships, contributing to event funding.
- Oversaw marketing, outreach, and technical support.

SKILLS & INTERESTS

- **Technical Skills:** Python, R, Gurobi, Machine Learning, Computer Vision, Pytorch, Latex
- **Languages** English (Native Speaker), Mandarin
- **Interests:** Water/snow skiing, fitness/weightlifting,