

# SURAJ ANAND

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## EDUCATION

### Brown University

Providence, RI | May 2024

**M.S.** Computer Science, **B.S.** Computer Science–Applied Mathematics, GPA: 4.0

Thesis: *How to Promote Structural In-Context Learning with Forgetting*

Relevant Coursework: Grad Deep Learning (Python) · Grad Parallel Computing (Triton/CUDA/C++) · Grad Prescriptive Analytics (CPLEX/Go) · Grad Decision Making · ML Algos · Numerical Optimization (Matlab) · Statistical Applications · Information Theory · Compilers (OCaml) · Networks · Software Engineering

## WORK EXPERIENCE

### Point72 Internal Alpha Capture

New York, NY

QUANTITATIVE RESEARCHER (NLP)

August 2024 - Present

- Researched & productionized high-alpha NLP signals (IR > 1.5) in US equities using various large-scale external data sources, scaled to \$350M gross market value (GMV); continuous distribution shift testing.
- Constructed & combined mid-frequency signals to lower turnover and neutralize risk exposures.
- Owned LLM-based pipeline for structured knowledge extraction from internal notes & emails (*DSPy*).
- Training E5 & Nomic embedding models on synthetic QA data with temporal consistency objectives to improve semantic alignment over evolving fiscal events (*Torch*, *LanceDB*, *MTEB*, *Quantization*).

### Kaiser Permanente Medical Informatics

San Diego, CA

MACHINE LEARNING (NLP) INTERN

May 2022 - August 2022

- Trained SBERT models on patient-reported pre-hospital visit reasons, improving downstream predictive performance by 10% (AUPRC) and enhancing robustness to edge cases (*SentenceTransformers*).
- Fine-tuned GPT-J with ZeRO parallelism to extract kidney stone features from radiology notes, addressing annotation scarcity through self-learning and active learning (*DeepSpeed*, *Ray*).

### VolKno

Los Angeles, CA

MACHINE LEARNING ENGINEER

January 2022 - January 2023 (excl. summer)

- Engineered pipeline for trailer annotation (objects, faces, etc) with real-time retrieval (*dlib*, *MySQL*).
- Predicted Twitter sentiment for upcoming films using user behavior and responses (0.80 AUROC); Used insights to guide studio marketing strategy.

## RESEARCH & PROJECTS

CONTROLLING USE OF IN-CONTEXT VS. IN-WEIGHTS STRATEGIES WITH WEIGHT FORGETTING ICLR 2025  
**Suraj Anand**, Michael Lepori, Jack Merullo, Ellie Pavlick

RLAIF TO AVOID ENTITIES WHEN EXPLICITLY INSTRUCTED (PINK ELEPHANTS) Preprint  
Louis Castricato, Nathan Lile, **Suraj Anand**, Hailey Schoelkopf, Siddharth Verma, Stella Biderman

JAILBREAKING PPO-ED LANGUAGE MODELS WITH MECH INTERPRETABILITY Preprint

PARALLEL SIMULATED ANNEALING FOR COMB. OPTIMIZATION (OpenMP/CUDA Kernel Fusion) Presentation

## TEACHING

Teaching Assistant, COMPUTATIONAL LINGUISTICS (CS1460) Providence RI | Fall 2022 & Fall 2023

- Instructed 100+ students on Transformers, HMMs, Dependency Parsing, etc; developed final project for Question Answering with BERT (2022) & Tracing Gender Bias in GPT2 with Mech Interp (2023)

**Achievements:** AIME Qualifier (x2), Intel International Science Fair Finalist, National Merit Finalist