

Josh Engels

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EDUCATION

Rice University | Houston, Texas

August 2018 - May 2022

Bachelor of Science in Computer Science, specialization in algorithms

Bachelor of Arts in Mathematics

GPA (unweighted): 4.0 out of 4.0

WORK EXPERIENCE

ThirdAI | Houston, Texas

August 2021 - Present

Artificial Intelligence Engineer

- Lead programmer on MagSearch, ThirdAI's near neighbor search offering
- Designing and implementing production near neighbor search algorithms, hashing algorithms, and infrastructure in C++

Databricks | San Francisco, California

May 2021 - August 2021

Software Engineering Intern—Storage Platform Team

- Designed and built a production Scala service to monitor and benchmark Kafka clusters, including a metrics and alerting pipeline that reports cluster availability, message durability, and end to end latency

Two Sigma | New York, New York

May 2020 - August 2020

Software Engineering Intern—Time Series Storage Team

- Architected Baikal, a Java proof-of-concept high-frequency/high-throughput time series data store

RESEARCH EXPERIENCE

Algorithms | Rice University Sketching and Hashing Lab

August 2020 - Present

- Built and theoretically analyzed FLINNG, a provably sublinear C++ high dimensional near neighbor search algorithm with a 10X speedup over existing methods, resulting in a first author NeurIPS paper titled *Practical Near Neighbor Search via Group Testing*

Simulated Voting | Rice University Human Computer Interaction Lab

January 2019 - August 2020

- Modeled human voting strategies and errors in ACT-R and Lisp, resulting in the ICCM first author paper *Missed One! How Ballot Layout and Visual Task Strategy Can Interact to Produce Voting Errors*

PROJECT AND TEACHING EXPERIENCE

Side Projects:

2019 - Present

- Investigating the performance of using a Repeated Array of Counts estimator (RACE) as input to a binary classifier on the CRITEO click through prediction problem
- Augmenting a custom C++ locality-sensitive Bloom filter with a learned TensorFlow prefilter
- At HackGT, built DevHealth, an Electron app that corrects posture with a TensorFlow PoseNet model
- At HackRice, built WikiLearn, a Chrome extension that shows the Wikipedia entry for any highlighted words on any webpage in a tooltip containing a fully functional Wikipedia browser

Rice Comp 182 (Algorithmic Thinking) Teaching Assistant:

2020

- Held weekly office hours and led review sessions for Rice's algorithms and discrete mathematics class

Rice Catalyst Eureka Program:

2018 - 2019

- Mentored a high school student in statistical analysis, web scraping in Python, and academic writing through a year long program aimed to introduce students to research

AWARDS

- Louis J. Walsh Scholarship in Engineering, 2020-2021
- Top 0.15% of ~1 million solvers on ProjectEuler.net (mathematical programming challenges), 2021
- First place underclassman in Rice coding competition, 2018 and 2019
- National Merit Finalist and Scholarship awardee, 2018