

Sachin Konan

skacademic813@gmail.com | <https://sachinkonan.github.io/>

EDUCATION

Bachelor of Science, Georgia Institute of Technology

2018 - 2022

Computer Science; Threads in Theory and Artificial Intelligence

Research Advisor: Matthew Gombolay

WORK EXPERIENCE

Two Sigma - Metadata

Fall 2022 -

Current

- Auto-Featurization: Building LLMs that can generate and “plan” data pipelines
- Semantic Types: Developed a framework to dedupe pipelines with entity detection ([Published in NAACL 2024](#))
- Finetuned open-source LLMs for finance-specific detection and code generation
- Compression: Engineered 10x reduction in Two Sigma’s Data Lineage Graph

Georgia Institute of Technology - Research Assistant (CORE Robotics Laboratory)

Fall 2020 -

Spring 2022

- *InfoPG*: Developed an information-theoretic objective encouraging collaboration in multi-agent, collaborative RL games ([Published in ICLR 2022](#))
- *ConDT*: Improved the architecture of Decision Transformer to discriminate between state-action embeddings based on return ([Published in CoRL 2023](#))
- For *InfoPG/ConDT*, I implemented distributed training on the lab’s GPU cluster

Meta - Fundamental AI Research (FAIR)

Fall 2021

Open World Detection for One-Stage Detection Networks ([Published on arXiv 2022](#))

Georgia Institute of Technology - Teaching Assistant (with Constantinos Dovrolis)

Fall 2021- Fall

Head Grader for CS 3510: Design and Analysis of Algorithms

2022

Intel - Deep Learning Group

Summer 2019

Improved runtime of ArchBench (DNN hardware simulator) from 2 hrs to 4 mins

PUBLICATIONS

3. Sachin Konan, Larry Rudolph, Scott Affens. “[Automating the Generation of Functional Semantic Types with Foundational Models](#).” NAACL 2024.

2. Sachin Konan, Esmaeil Seraj, and Matthew Gombolay. “[Contrastive Decision Transformers](#).” CoRL, 2023.

1. Sachin Konan, Esmaeil Seraj, and Matthew Gombolay. “[Iterated reasoning with mutual information in cooperative and byzantine decentralized teaming](#).” ICLR, 2022.

PREPRINT/ARTICLES

3. **Sachin Konan**, Larry Rudolph. "Merge-Split: Directed Graph Perturbations that Preserve Random Walk Structure." *In Preparation for VLDB*, 2025.

2. Scott Affens, **Sachin Konan**, Geoff Cross, Larry Rudolph. "Semantic Types: From Computer-Centric to Human-Centric Data Types." *Two Sigma Research Archive*, 2023.

1. **Sachin Konan**, Kevin J. Liang, and Li Yin. "Extending one-stage detection with open-world proposals." *arXiv preprint arXiv:2201.02302* (2022).

AWARDS

NSF Graduate Research Fellowship 2022

PURA Undergraduate Research Fellowship 2021

NBA National Hackathon (Top 10 in the US) 2021

Davidson Fellow 2018

Finalist, Regeneron Science Talent Search 2018

2nd In Embedded Systems at Intel International Science and Engineering Fair 2017

SELECTED COURSEWORK

Machine Learning CS 4641: Machine Learning, CS 4803: Deep Learning, CS 4476: Computer Vision, CS 3630: Perception and Robotics, CS 3600: Intro To Artificial Intelligence

Computer Science CS 4540: Advanced Algorithms, CS 4510: Automata and CS 3510: Design and Analysis of Algorithms, CS 1302: Data Structures & Algorithms

Mathematics Math 3406: Advanced Lineage Algebra, MATH 4032: Combinatorial Analysis, ISYE 3770: Statistics, Math 2550: Intro To MultiVariable Calculus

PROJECTS/CONSULTING

Boat Detection – *Consultant for AR Inspect* Spring 2023
Real-Time Boat Identification and Metadata Extraction using CNN's

Accelerometer Dashboard - *Consultant for GT Womens Volleyball Team* Fall 2019
Impact Visualization/Collection/Analysis of Volleyball Players throughout season

SKILLS

Programming: Python (Pytorch, Flax, Numpy, Pandas, OpenCV, Matplotlib), Java, C++

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