Alexander Raistrick

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EDUCATION

BSE Computer Science, Minor in Math *University of Michigan Ann Arbor*   ***April 2021***
- **3.9/4.00 Overall GPA,** 3.95 CS Major GPA, 4.0 Math Minor GPA.
- Awards: EECS Scholar Award, 4x James B Angell Scholar, College of Engineering Dean's List
- Relevant Coursework: Computer Vision, Operating Systems, System Design & Search Engines, Machine Learning, Data Structures and Algorithms, Linear Algebra, Modern Abstract Algebra, Real Analysis

RESEARCH EXPERIENCE

Fouhey AI Lab, *Undergraduate Research Assistant*   ***April 2020 - present***
- Conducting research on learning implicit single-view reconstruction from collision supervision. Collaborating with Nilesh Kulkarni and Professor David Fouhey

Michigan Information Interaction Lab, *Undergraduate Research Assistant*   ***August 2018 - April 2019***
- Published as an author of "MRAT: The Mixed Reality Analytics Toolkit" which received a **Best Paper Award** in publication at CHI 2020. Designed application-specific clustering and visualization for 3D interaction research. Collaborated with Professor Michael Nebeling and members of *Michigan Information Interaction Lab*

NquiringMinds, *Research Intern (Southampton, UK)*   ***July - August 2018***
- Researched anomaly detection for detecting trafficking in large unsupervised maritime trajectory datasets

MAVRIC Lab, *Summer Research Assistant*   ***May - July 2018***
- Engineered autonomous vehicle interaction simulator for use in HCI project with Toyota Research. Collaborated with Suresh Jayaraman, Professor Lionel Roberts and Professor Xi Jessie Yang

PROFESSIONAL EXPERIENCE

(Cancelled Due to COVID19) Cruise Automation, *Perception Intern*   ***Summer 2020***
- Excelled in rigorous and highly selective computer vision & machine learning interview process

Microsoft, *Software Engineering Intern (Redmond WA)*   ***May - July 2019***
- Implemented interpretable ML models for financial transaction categorization and anomaly detection
- Achieved 2nd Place in "Hack for Industry" hackathon - Created neural network to predict tax audit failures

TEACHING & SERVICE

University of Michigan, *Instructional Aide / TA*   ***September 2019 - December 2020***
- EECS398 F19 - System Design & Search Engines, (70 undergrad seniors) - Closely mentored teams of last semester seniors on C++ System Design and NLP topics to create internet search engines from scratch.
- EECS280 W20, F20 - Programming & Data Structures (1200 early undergrads) - Instructed 30 student labs, 1-1 office hours, and group coaching.

Microsoft Intern AI Tutorials - Organized and ran a series of 8 intro to AI tutorials for interns new to the field

Tau Beta Pi Tutoring - Engaged in community service tutoring of freshmen in challenging intro CS classes

SELECTED PROJECTS

"Multimedia Search from Composite Inputs" - EECS 442 Final Project   ***Fall 2019***
- Best Poster award for work in implementing BERT-based image search, and follow up exploration on joint image-text inputs for multimodal image search.

Internet Search Engine in C++ - EECS398 MDE Capstone   ***January - April 2019***
- Architected a distributed systems web crawler from scratch in C++ which indexed over 140 million web pages. Designed Natural Language Processing algorithms for web page ranking and web crawling prioritization.

SKILLS

Expert in C++, Python**,** Pytorch, Numpy and common python data science libraries. Multithreaded OS-level C++ programming and system design. Some experience in Tensorflow, Javascript, C#, Expert in Blender.