


## Education

### Georgia Institute of Technology

 Ph.D. in Machine Learning


Summer 2023 - present

► Advisor: Dr. Polo Chau

 M.S. in Computer Science

2015 - 2018

### Samford University

 B.M. in Piano Performance

2000 - 2004

## Professional Experience

Georgia Institute of Tech / PhD Researcher

June 2023 - Present

Georgia Institute of Technology / Instructional Associate Researcher

May 2021 - May 2023

Georgia Institute of Technology / Instructional Associate

May 2021 - May 2023

FedEx Express / Pilot - Captain, Boeing 767 Aircraft

August 2016 - Present

ExpressJet Airlines / Manager - Advanced Qualification Program

January 2014 - August 2016

ExpressJet Airlines / Lead Ground and Simulator Instructor

May 2007 - December 2013

ExpressJet Airlines / Pilot - Captain, Embraer 145 Aircraft

May 2006 - August 2016

## Awards & Research Funding Experience

### 🌟 Google Research Award

2023

Co-authored winning proposal for scaling up educators' capacities by automating visualization assessment via generative AI

### 🌟 Outstanding Instructional Associate - Georgia Tech, College of Computing

2022

As co-head TA of CSE 6242 - Data and Visual Analytics

### 🌟 Best Poster Award at IEEE VIS Conference

2021

For "Towards Automatic Grading of D3.js Visualizations"

## Publications

### Navigating the Safety Landscape: Measuring Risks in Finetuning Large Language Models

ShengYun Peng, Pin-Yu Chen, Matthew Hull, Duen Horng Chau  
NeurIPS 2024.

### Non-Robust Features are Not Always Useful in One-Class Classification

Matthew Lau, Haoran Wang, Alec Helbling, Matthew Hull, ShengYun Peng, William Lundardi, Martin Andreoni, Wenke Lee  
CVPR Visual Anomaly and Novelty Detection Workshop 2024.

### Revamp: Automated Simulations of Adversarial Attacks on Arbitrary Objects in Realistic Scenes

Matthew Hull, Zijie Jay Wang, Duen Horng Chau  
ICLR Tiny Paper 2024.

### LLM Self Defense: By Self Examination, LLMs Know They Are Being Tricked

Mansi Phute, Alec Helbling, Matthew Hull, ShengYun Peng, Sebastian Szyller, Cory Cornelius, Duen Horng Chau  
ICLR Tiny Paper 2024.

### Robust Principles: Architectural Design Principles for Adversarially Robust CNNs

ShengYun Peng, Weilin Xu, Cory Cornelius, Matthew Hull, Kevin Lee, Rahul Duggal, Mansi Phute, Jason Martin, Duen Horng Chau  
BMVC 2023.

### VisGrader: Automatic Grading of D3 Visualizations

Matthew Hull, Vivian Pednekar, Hannah Murray, Nimisha Roy, Emmanuel Tung, Susanta Routray, Connor Guerin, Justin Chen, Zijie Jay Wang, Seongmin Lee, Mahdi Roozbahani, Duen Horng Chau  
TVCG 2023.

### DetectorDetective: Investigating the Effects of Adversarial Examples on Object Detectors

Sivapria Vellaichamy, Matthew Hull, Zijie Jay Wang, Nilaksh Das, ShengYun Peng, Haekyu Park, Duen Horng Chau  
CVPR Demo, 2022.

### Towards Automatic Grading of D3.js Visualizations

Matthew Hull, Connor Guerin, Justin Chen, Susanta Routray, Duen Horng Chau  
TVCG, 2020.

🏆 Best Poster Award

## Argo Lite: Open-Source Interactive Graph Exploration and Visualization in Browsers

Siwei Li, Zhiyan Zhou, Anish Upadhayay, Omar Shaikh, Scott Freitas, Haekyu Park, Zijie Jay Wang, Susanta Routray, Matthew Hull, Duen Horng Chau  
CIKM 2020.

## Invited Talks and Presentations

### Flying Cargo During the COVID-19 Pandemic

► Palo Alto University Rotary Club, Palo Alto, CA (Invited Talk, Host: Jake Yoo)

September 23, 2022

### Line Oriented Evaluation Design

► Advanced Qualification Program Working Group, Las Vegas, NV, USA (Invited Talk, Host: Allegiant Airlines)

October 15, 2015

### Tactical Reporting of Advanced Qualification Program Training Data

► World Airline Training Symposium Orlando, FL, USA (Invited Talk, Host: Julie Franzen)

April 20, 2015

### Reason Code & Instructor Comments Data Analysis Methodology

► Advanced Qualification Program Working Group Dallas, TX, USA (Invited Talk, Host: Envoy Airlines)

February 25, 2015

## Professional Service

### Reviewer

► ACM International Conference on Information & Knowledge Management (CIKM), Resource Track

2020

## Teaching

### CSE 6242: Data & Visual Analytics

- Head Teaching Assistant / Instructional Associate (1200+ students every semester)
- Teaching Assistant / Instructional Associate (900+ students every semester)
- Graduate Teaching Assistant (800+ students each semester)

### Georgia Institute of Technology

Fall 2019 - Present

Fall 2018 - Spring 2019

Spring 2018 - Summer 2018

### Flight Instruction

- Simulator Instructor - Embraer 145 Aircraft
- Lead Ground Instructor - Embraer 145 Aircraft
- Ground Instructor - Embraer 145 Aircraft

### ExpressJet Airlines

January 2016 - August 2016

January 2012 - December 2013

July 2007 - December 2012

## Certifications

- Boeing 757 / 767 Type Rating
- Boeing 737 Type Rating
- Embraer 135/145 Type Rating
- Airline Transport Pilot
- Certified Flight Instructor - Single Engine, Multi Engine, Instrument
- Remote Pilot - Small Unmanned Aircraft Systems

## Skills

### Programming

Python, R, JavaScript, SQL, Objective-C

### Web Development

D3, jQuery, Ruby on Rails, PHP

### Design

Blender, Cinema4D, After Effects, Photoshop, Affinity Designer

## References

### Dr. Polo Chau, Professor

School of Computational Science and Engineering

Georgia Institute of Technology

[faculty.cc.gatech.edu/~dchau/](http://faculty.cc.gatech.edu/~dchau/)

### Dr. Mahdi Roozbahani, Lecturer

School of Computational Science and Engineering

Georgia Institute of Technology

[cse.gatech.edu/people/mahdi-roozbahani/](http://cse.gatech.edu/people/mahdi-roozbahani/)

### James Barbour, Director - Flight Standards and Training

Avelo Airlines

[JBarbour@aveloair.com](mailto:JBarbour@aveloair.com)