# Atefeh Mahdavi Goloujeh

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## EDUCATION

**Georgia Institute of Technology,** Atlanta, GA
PhD in Digital Media – AI Concentration, Advisor: Dr. Brian Magerko — 2020 – 2025 (Expected)
**Carnegie Mellon University,** Pittsburgh, PA
MS in Computational Design, Advisor: Dr. Daniel Cardoso Llach — 2016 – 2018
**University of Tehran,** Tehran, Iran
BS in Architectural Engineering — 2008 – 2013

## RESEARCH EXPERIENCE

**Childrens' Interaction with Large Language Models, Georgia Tech**
*Graduate Researcher* — Jan 2023 – Present

- Collaborated with a fellow graduate researcher to plan and conduct a focus group study with 24 middle-school students to understand their interaction approaches with ChatGPT. *[P.8]*
- Conducted thematic analysis on students' dialogue and prompts and characterized students' interaction trajectories with ChatGPT to inform the design of informal AI literacy interventions.

**Users' Language Behavior with Text-to-image Tools, Georgia Tech**
*Graduate Researcher* — May 2022 – Sep 2022

- Interviewed 19 existing users of a text-to-image generation AI tool to understand their intuitive prompting behaviors and challenges. *[P.5] [P.7]*
- Analyzed the interview data by employing open-coding and thematic analysis to inform the future AI literacy and generative AI design interventions.

**Qualitative Analysis for Intelligent Pedagogical Support, Georgia Tech**
*Summer Research Intern* — May 2021 – Aug 2021

- Performed thematic analysis on think-aloud study data involving six teachers who incorporated CAI-enabled EarSketch into their programming classes to pinpoint usability issues which led to enhanced UI features and refined decision tree.

**Modeling Ethical Leadership Signals, School of Computer Science UNCC**
*Summer Research Intern* — May 2020 – Aug 2020

- Fine-tuned BERT using a costume-labeled dataset to predict the ethical leadership signals *[P.6]*
- Examined techniques for handling imbalanced datasets including up/down-sampling, and transfer learning

**Exploratory Data Analysis of Social Media Data, School of Computer Science UNCC**
*Research Associate* — Dec 2019 – Dec 2020

- Conducted Topic modeling, Named Entity Recognition and image clustering on social media data (Instagram. Twitter) to understand how urban activities are influenced by social media

## INTERACTIVE SOFTWARE DEVELOPMENT EXPERIENCE

**COVID Data Visualization Dashboard, School of Data Science UNCC**
*Web Application Developer Intern* — May 2020 – Aug 2020

- Collaborated with a multi-disciplinary team of faculty and interns to initiate the UNCC COVID data visualization dashboard
- Implemented and deployed the interactive COVID dashboard with automatic daily updates, using D3.js and Node.js to present a range of related COVID-related metrics

**Expressive AI Studio, Georgia Tech**
*Abstract 3D Scene Generation form language input, Student Project* — Aug 2020 – May 2021

- Collaborated with an inter-disciplinary team of 5 graduate students to develop AI Holodeck a software prototype for generating abstract 3D scenes based on prompts. *[P.3] [P.4]*
- Implemented an image search workflow using similarity score with CLIP embeddings

- Intergrated a pre-trained Scene Graph Generation model (GRCNN) into AI Holodeck to detect objects and their positional relationships

**AI Storytelling in Virtual Environments, Georgia Tech**

*Story Generation Guided by Character Intentions, Student Project* Jan 2021 – May 2021

- Co-developed logic to steer large language models like GPT-3 and GPT-Neo to generate a consistent short story from a given prompt based on character wants and needs.

## COMMUNICATION & LEADERSHIP EXPERIENCE

**School of Computer Science, UNCC**

*Human-Centered Design, Graduate Teaching Assistant* Aug 2019 – May 2020

- Collaborated with faculty to mentor a cohort of 40+ undergraduate students
- Guided students in completing topical assignments and a final project in user interface design encompassing need-finding, persona design, low fidelity prototyping, heuristic evaluation, and a pilot user study

**Carnegie Mellon University School of Architecture**

*Fundamentals of Computational Design, Graduate Teaching Assistant* Aug 2018 – Dec 2018

- Oversaw 14 undergraduate students to explore six themes in computational design including generative and rule-based systems
- Collaborated with faculty and three other Graduate Teaching Assistants to maintain consistency across the four distinct student sections

## PUBLICATIONS, PRESENTATIONS & EXHIBITIONS

*[P.8] "***Testing, Socializing, Exploring: Characterizing Middle Schoolers' Approaches to and Conceptions of ChatGPT**" Yasmine Belghith*, Atefeh Mahdavi Goloujeh*, Brian Magerko, Duri Long, Tom Mcklin, Jessica Roberts. Accepted to 2024 CHI Conference on Human Factors in Computing Systems. ** Contributed equally and alphabetically ordered.*

*[P.7]* "**Understanding Users' Prompt Journey with Text-to-image Generative AI Tools**" Atefeh Mahdavi Goloujeh, Anne Sullivan, Brian Magerko. Accepted to 2024 CHI Conference on Human Factors in Computing Systems.

*[P.6]* "**The Triangulation of Ethical Leadership behaviors using Qualitative, Experimental, and Data Science Methods.**" George Banks, Roxanne Ross, Allison Toth, Scott Tonidandel, Atefeh Mahdavi Goloujeh, Wenwen Dou, Ryan Wesslen. Published in The Leadership Quarterly, 2023.

*[P.5]* "**Towards an Understanding of Human-AI Interaction in Prompt-Based Co-Creative Systems.**" Atefeh Mahdavi Goloujeh, Anne Sullivan, and Brian Magerko. Presented at the Human-Centered AI Workshop, NeurIPS 2022.

*[P.4]* "**Explainable CLIP-Guided 3D-Scene Generation in an AI Holodeck.**" Atefeh Mahdavi Goloujeh, Jason Smith, and Brian Magerko. Published in Proceedings of the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment, 2022.

*[P.3]* "**Towards an AI Holodeck: Generating Virtual Scenes from Sparse Natural Language Input.**" Jason Smith, Nazanin Alsadat Tabatabaei Anaraki, Atefeh Mahdavi Goloujeh, Karan Khosla, and Brian Magerko. Presented at the Experimental AI in Games Workshop, AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment, 2021.

*[P.2]* "**Take a Selfie**" Atefeh Mahdavi Goloujeh. Exhibited in the NeurIPS Creativity Workshop Gallery 2021

*[P.1]* "**Pneuxels: a platform for physically manifesting object-based crowd interactions in large scales.**" Manoj Deshpande, Saquib Sarwar, Atefeh Mahdavi Goloujeh, and Dimitris Papanikolaou. Published in Proceedings of the ACM International Joint Conference on Pervasive and Ubiquitous Computing, 2019.

## TECHNICAL SKILLS

**Research Skill:** Interviews, Focus Groups, Usability Testing, Think-alouds, Inductive/theoretical coding, Thematic Analysis, Affinity mapping

**Programming:** Python, JavaScript

**Machine Learning Frameworks:** TensorFlow (Developer certified), sklearn, spaCy

**Data Analytics and Visualization:** Pandas, matplotlib, D3.JS

**Modeling, Rendering and Graphics:** Rhinoceros, Grasshopper, V-ray, Photoshop, Illustrator