

Aditya Gunturu

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EDUCATION

University of Calgary, Master of Science 09/2023 – 08/2025

Department of Computer Science

Computational Media Design

Advisor: Dr. Ryo Suzuki (Primary), Dr. Patrick Finn

Manipal Institute of Technology, Bachelor of Technology 07/2018 – 08/2022 | CGPA: 8.27/10

Major: Media Technology

Minor: Computational Mathematics

PUBLICATIONS

Aditya Gunturu, Yi Wen, Jarin Thundathil, Nandi Zhang, Rubaiat Habib Kazi, and Ryo Suzuki. Augmented Physics: Creating Interactive and Embedded Physics Simulations from Static Textbook Diagrams. In Proceedings of the 37th Annual ACM Symposium on User Interface Software and Technology (**UIST '24**)

🏆 **Best Paper Award** | In collaboration with *Adobe Research*

Paper [🔗](#) | Video [🔗](#) | Teaser [🔗](#)

Haijun Xia, Tony Wang, **Aditya Gunturu**, Peiling Jiang, William Duan, and Xiaoshuo Yao. CrossTalk: Intelligent Substrates for Language-Oriented Interaction in Video-Based Communication and Collaboration. In Proceedings of the Annual ACM Symposium on User Interface Software and Technology (**UIST '23**)

Work done as an Intern at UC San Diego

Paper [🔗](#) | Video [🔗](#) | Teaser [🔗](#)

WORK EXPERIENCE

Adobe Research, 05/2025 – 08/2025 | San Francisco

Incoming Research Scientist Intern (Summer 2025)

I will be working on video decomposition for retargeting.

Mentors: **Stephen DiVerdi** and **Mackenzie Leake**

Interactions Lab, UCalgary, Graduate Researcher 09/2023 – present | Calgary, Canada

- My research focuses on creating ML-integrated authoring tools that lower the bar for both creators and novices to produce dynamic, animated, and interactive visuals on-demand and in real time. My ongoing project focuses on a simple and intelligent authoring tool for creating motion graphics.
- My work so far has led to two submission at CHI '25 and a publication at UIST '24, which also won the best paper award!

Subtl.AI, CIE, Software Development Intern 01/2023 – 07/2023 | IIIT Hyderabad

- My work included full-stack product engineering and NLP Research for large-scale document question answering.
- I was on the founder's team completely redesigning their early prototype and implementing it into a scaled product, which is now being used by the biggest bank in India (SBI)

- Built the web-based chatbot interface with various novel interactions for clients to gain insights from their proprietary documents. I also improved the query-document similarity algorithm, which is based on an in-house BERT-based model. I also contributed to integrating an open-source LLM into this pipeline.

Empathic Computing Lab, Research Intern (Remote) [🔗](#)

09/2022 – 01/2023

Under Prof. **Mark Billinghurst**

I built a cross-device collaboration system between a mobile AR device and a remote desktop collaborator, where a desktop client can drop and manipulate objects in the remote AR scene in real-time. I used React and WebRTC for the desktop interface and Unity for the AR system. I worked with various AR frameworks like Niantic Lightship and Google's geospatial API to explore multiple interactions. Firebase's real-time database was used for seamless data integration.

University of California, San Diego, Research Intern (Remote) [🔗](#)

06/2021 – 09/2022

At the **Creativity Lab** [🔗](#), Under Prof. **Haijun Xia**

- I built a context-aware intelligent video conferencing platform that processes language from conversations into action and content recommendations in real-time.
- I was responsible for implementing the system interactions for action/content recommendations and used webRTC, firebase real-time database, and React (Typescript) to build the prototype. Several custom components were built to set up real-time panel communication for the front-end, NLP Module, and user interactions.
- I also worked on a part of the NLP module. Specifically, I built the action recommendation module using BERT (sBERT) and spaCy. I devised a novel method that calculates sentence similarity between a custom corpus and live transcripts to recommend relevant UI actions in real time. *Published at UIST '23!*

FliteX, Software Engineering Intern (Research)

01/2024 – 08/2024

Built a web-based interactive 3D flight path simulator for Transatlantic flights.

As part of the MITACS accelerate program.

RESEARCH PROJECTS

Augmented Physics: Creating Interactive and Embedded

08/2023 – 03/2024

Physics Simulations from Static Diagrams, Lead Author

UIST '24 (Best Paper)

Advisors: Ryo Suzuki, Rubaiat Habib Kazi

- Built an authoring tool for creating embedded interactive physics simulations from static textbook diagrams, allowing teachers to generate personalized and explorable simulations and animations for their students on-demand, without programming.

RealitySummary: On-Demand Mixed Reality Text

08/2023 – present

Summarization and Question Answering, Lead Author

CHI '25 (In Submission) | [Arxiv](#) [🔗](#) | [Video](#) [🔗](#)

Advisors: Ryo Suzuki, Wesley Willett

- Built a mixed reality reading assistant that augments documents with LLM-generated content on HoloLens 2 and Apple Vision Pro, using custom document tracking algorithms. Developed over three iterations, our studies highlight LLM-MR's benefits, such as always-on assistance, reduced context switching, and spatial affordances, demonstrating potential beyond traditional screens.

FoamIO: Fabricating Soft Haptic Devices with Interactive

01/2024 – 05/2024

Foam, Co-Lead Author

CHI '25 (In submission)

Advisor: Aditya Shekhar Nittala

- Created methods for patterning electrotactile haptics on foam and *developed a design tool* with a novel algorithm for patterning electrodes and traces to fit user-drawn sketches.

CrossTalk: Intelligent Substrates for Language-Oriented Interaction in Video-Based Communication and Collaboration [↗](#)

06/2021 – 10/2023

UIST '23

Advisor: Haijun Xia

- Built a context-aware video conferencing platform that parses conversations into real-time action and content recommendations, creating custom components for live panel communication and an NLP-based action recommendation system using sentence similarity.

NOTABLE AWARDS

Best Paper Award, ACM UIST 2024

2024

Augmented Physics got awarded the Best Paper at UIST 2024! The award is presented to the top 1% of accepted papers.

Alberta Graduate Excellence Award, \$11,000

2024

Awarded \$11,000 for research and scholarly excellence by the province of Alberta.

MITACS Accelerate Fellowship, \$20,000

2024

Funding provided by Mitacs for conducting research with an industry partner.

BIRAC - E-YUVA Entrepreneurship Grant, \$10,000 [↗](#)

2022

As part of the Flexible Electronics lab under the startup incubator, our group (three students, including myself) won an award for undergraduate entrepreneurship efforts. The funding enabled the lab to further develop its technology.

SERVICE

CHI 2025, Reviewer

10/2024 – 11/2024

PRESS COVERAGE

New interactive AI tool makes textbooks come to life, BGR [↗](#)

Textbooks come alive with new, interactive AI tool, CU Boulder Today [↗](#)

Creating Interactive and Embedded Physics Simulations from Static Textbooks, Hacker News [↗](#)

Interactive Physics: A New Tool for Students, AZO Robotics [↗](#)

Textbooks come alive with new AI tool, Phys.org [↗](#)

Science textbooks come alive with new AI tool, The Brighter Side News [↗](#)

Textbooks Come Alive with 'Augmented Physics' – Transforming Education with AI, Opentools.ai [↗](#)