

Subramanian Chidambaram

HCI + AI Researcher

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RESEARCH EXPERIENCE

AMAZON WEB SERVICES | POSTDOCTORAL SCIENTIST, AWS AI

December 2022 – Current | Santa Clara, CA

- Research and development of novel Virtual Reality (VR) interfaces to annotate 3D point cloud data for machine learning applications.
- Research focused on understanding advancing conversational AI and strategies for steering large language models (LLMs) prompts.
- Interdisciplinary research integrating Human-Computer Interaction (HCI) and Artificial Intelligence (AI) to develop AI based agents and agentic workflows.

AUTODESK RESEARCH | RESEARCH INTERN, HCI AND VISUALIZATION TEAM

July 2022 – October 2022 | Toronto, Canada

- Research exploration of Spatial instructional capture and delivery system using Virtual Reality.

PURDUE UNIVERSITY | GRADUATE RESEARCH ASSISTANT

January 2017 – December 2022 | West Lafayette, IN

- Contribution to Research and Development of novel technology in the areas of XR instructional authoring, Computational Fabrication, and software support for design of wearables.
- Research leading to successful patent and publications in high-end conferences.

EDUCATION

PURDUE UNIVERSITY

PH.D. IN HUMAN-COMPUTER INTERACTION

August 2017 - December 2022 | West Lafayette, IN, USA

- Thesis Topic: Exploration Of Codeless In-situ Extended Reality Authoring Environment For Asynchronous Immersive Spatial Instructions

PURDUE UNIVERSITY

MS IN AERONAUTICAL AND ASTRONAUTICAL ENGINEERING

August 2015 - August 2017 | West Lafayette, IN, USA

- Minor in Computational Science & Engineering

VELLORE INSTITUTE OF TECHNOLOGY (VIT)

B.TECH (HONS) IN MECHANICAL ENGINEERING

July 2011 - May 2015 | Vellore, Tamil Nadu, India

SELECT PUBLICATIONS

1. **Chidambaram, S.**, Reddy, S., Rumble, M., Ipsita, A., Villanueva, A., Redick, T., Stuerzlinger, W., Ramani, K., EditAR: A Digital twin authoring and editing environment to create instructional content for AR/VR and video media, IEEE International Symposium on Mixed and Augmented Reality, Singapore, 2022.
2. **Chidambaram, S.**, Huang, H., He, F., Qian, X., Villanueva, A. M., Redick, T., Wolfgang, S., Ramani, K., ProcessAR: An augmented reality-based tool to create in-situ procedural 2D/3D AR instructions, Designing Interactive Systems Conference 2021, Virtual, 2021.

AWARDS

2020 Graduate School Mentoring Award Purdue University
2020 Magoon Excellence in Teaching Award Purdue University

SKILLS

PROGRAMMING

Python • C# • C++ • C

XR DEVELOPMENT

Unity3D • OpenXR • Oculus SDK • MRTK • visionOS

GRAPHICS/VISION

OpenCV • OpenGL • Three.js

AI FRAMEWORKS

PyTorch • OpenAI APIs • Anthropic APIs • LangChain

PYTHON FRAMEWORKS

NumPy • Pandas • Scikit-Learn • Matplotlib

CLOUD SERVICES

AWS EC2 • S3 • Lambda • SageMaker • Ground Truth

3D ASSET DESIGN

Blender • Autodesk • Solidworks • 3D Printing • OpenSCAD • MeshLab

PROTOTYPING

Laser Cutting • SolidCAM • CATIA • Abaqus

REFERENCES

Dr. Alex C. Williams, Post-doctoral Mentor; Applied Scientist II, AWS Sagemaker Ground Truth, Amazon Science
✉ acwio@amazon.com

Dr. Erran Li, Applied Science Manager, AWS Sagemaker Ground Truth, Amazon Science
✉ lilimam@amazon.com