

ADNAN ABBAS

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Research Interests

- Designing Human–AI interaction and conversational interfaces that support behavior change in personal productivity
- Understanding how people engage and collaborate with agentic LLM systems for planning and self-reflection
- Studying how conversational systems shape social interaction, cooperation, and collective knowledge practices at work

Education

Virginia Tech

Ph.D. in Computer Science (HCI) – Advised by Dr. Sang Won Lee

Aug 2023 – Present

Blacksburg, VA, USA

Lahore University of Management Sciences (LUMS)

Bachelor of Science in Computer Science

Aug 2018 – May 2022

Lahore, Pakistan

Publications

Journal & Conference Proceedings

- [Adnan Abbas](#), Caleb Wohn, Donghan Hu, Eugenia H. Rho, Sang Won Lee, “*PITCH: Designing Agentic Conversational Support for Planning and Self-reflection*,” in *Proceedings of the ACM Conference on Conversational User Interfaces (CUI 2025)*.
- Mukhtiar Ahmad, Syed Muhammad Nawazish Ali, Muhammad Taimoor Tariq, Syed Usman Jafri, [Adnan Abbas](#), et al., “*Neutrino: A Fast and Consistent Edge-based Cellular Control Plane*,” *IEEE/ACM Transactions on Networking*, 2023.

Papers Under Review

- [Adnan Abbas](#), Caleb Wohn, Arnav Jagtap, Eugenia H. Rho, Young-ho Kim, Sang Won Lee, “*‘Having Lunch Now’: Understanding How Users Engage with a Proactive Agent for Daily Planning and Self-Reflection*,” under review at *ACM Conference on Human Factors in Computing Systems (CHI 2026)*.
- Sangwook Lee, [Adnan Abbas](#), Yan Chen, Young-ho Kim, Sang Won Lee, “*CHOIR: A Chatbot-mediated Organizational Memory Leveraging Communication in University Research Labs*,” under review at *ACM Conference on Human Factors in Computing Systems (CHI 2026)*.

Lightly Reviewed Papers (Workshops & Posters)

- [Adnan Abbas](#), Sang Won Lee, “*PITCH: Productivity and Mental Well-being Coaching through Daily Conversational Interaction*,” in *ACM CHI 2024 Workshop on Designing AI for Well-being*, Honolulu, HI.
- Sangwook Lee, [Adnan Abbas](#), Yan Chen, Sang Won Lee, “*CHOIR: Chat-based Helper for Organizational Intelligence Repository*,” in *ACM CHI 2025 Workshop on Tools for Thought*.

Research Methods and Skills

Research Methods: Mixed-methods design, field deployment, semi-structured interviews, storyboarding, thematic analysis, dialogue act coding, statistical modeling

Technical Skills: Python, JavaScript (Node.js, React), C++, Java, SQL, HTML/CSS, Bash

Frameworks & Tools: OpenAI API, Flask, MongoDB, MERN stack, Slack Bolt, Docker, GitHub, Figma, Balsamiq, Nginx

Work Experience

Graduate Research Assistant - Echolab

Virginia Tech

Aug 2023 – Present

Blacksburg, VA, USA

- Conducted a systematic review of 100+ papers on human-AI interaction and behavioral science, identifying design gaps in conversational strategies and analytical gaps in understanding user engagement behaviors
- Led the design, engineering, and field deployment of a Slack-based conversational agent that promoted diverse productivity interventions for knowledge worker's planning and self-reflection
- Designed and ran a two-week mixed-methods field study (N = 12), combining qualitative (semi-structured interviews, conversation-logs, daily surveys) and quantitative (Likert scale self-reports, dialogue acts) to evaluate engagement and productivity
- Collaborated with an interdisciplinary team to refine study design, conduct open/thematic coding, and perform quantitative analyses (Python/R), grounding findings in HAI interaction and personal productivity literature
- Synthesized results into a [peer-reviewed CUI submission](#), demonstrating ability to independently drive research from concept to publication

Educational Technology Engineer

Educative, Inc.

Jul 2022 – Jul 2023

Lahore, Pakistan

- Performed a literature review on spatial computing and VR teaching solutions; presented findings that informed leadership's decision to expand into XR ed-tech
- Led the development of flagship Web 3.0 and XR courses, [WebXR Experiences](#) and [VR Development with Unity](#)
- Collaborated with PMs and developers to engineer a novel WebADB-based VR widget, enabling in-browser headset integration and reducing configuration overhead for learners
- Conducted usability tests (N=20) uncovering pain points in navigation and learner comprehension

Research Assistant

Lahore University of Management Sciences

Jul 2020 – May 2022

Lahore, Pakistan

- Designed and developed a novel system design for optimizing control plane operations in edge-based cellular networks
- Developed a user state management algorithm leveraging geographically aware consistent hashing
- Designed test cases and improved the performance of latency sensitive applications (AR/VR, self-driving cars) by 2.5x and 2.8x, under real-world cellular traffic

Projects

Understanding Organizational Memory Practices | Interview Study, Design Feedback

July 2025

- Conducted formative interviews (N=15) with faculty to understand organizational memory challenges & practices
- Synthesized findings into design goals ([Demo Video](#))

Encouraging Reflection in Journal Writing | Human-LLM Interaction, Prototype Development

May 2024

- Designed and developed an LLM-based journaling prototype enabling users to set future questions and control topic focus through text interactions
- Implemented guided prompts and evolving personalization features to support reflective writing ([Demo Video](#))

Short-form Content Addiction in Virtual Reality | Within-subject experiment, Quantitative Evaluation

Dec 2023

- Conducted a within-subject user study (N=15) comparing short-form content use in VR vs. smartphones through the lens of flow theory, examining engagement, time distortion, and well-being
- Analyzed quantitative findings and authored the report [SFC Addiction in VR Through the Lens of Flow Theory](#).

SkillCoach: Connecting Learners and Tutors | Figma Prototyping, Mixed-Methods Evaluation

Oct 2022

- Designed a peer-to-peer skill-sharing mobile platform connecting learners with tutors ([Case Study](#), [Figma Prototype](#))

Teaching

Ethics & Professionalism in Computer Science (CS 5024)

Graduate Teaching Assistant

Summer 2025

Blacksburg, Virginia Tech

Introduction to GUI Programming / Graphics (CS 3744)

Graduate Teaching Assistant

Spring 2025

Blacksburg, Virginia Tech

Software Design and Data Structures (CS 2114)

Graduate Teaching Assistant

Fall 2023 – Fall 2024

Blacksburg, Virginia Tech

Network-Centric Computing (CS-382)

Teaching Assistant

Fall 2021

Lahore, LUMS

Mentorship

Arnav Jagtap <i>Undergraduate Research Assistant, Virginia Tech</i>	Jan 2025 – May 2025
Amanjeet Sahagal <i>Undergraduate Research Assistant, Virginia Tech</i>	Jun 2025 – Sep 2025
Benjamin Wheatley <i>Undergraduate Research Assistant, Virginia Tech</i>	Jun 2025 – Present