Ricardo Gonzalez
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EDUCATION

Cornell University, Cornell Tech, New York, NY **Expected 12/2025**
Doctor of Philosophy in Information Science – Human Computer Interaction, and Human-AI Interaction
Awards - *Full scholarship recipient, Digital Life Initiative (DLI) fellowship recipient*
Cohere For AI Research Grants – lead researcher

Universidad de Los Andes, College of Engineering, Bogota, Colombia **Jan 2020**
Bachelor of Computer and Systems Engineering

SPECIALIZED SKILLS

AI Development: Cursor, Finetuning, OpenAI, Cohere, Google, Anthropic models
Back-end Development: Python, JavaScript, TypeScript, Java, C# (Unity), AWS, Firebase
Front-end Development: React, React Native, NodeJS, Django, Jekyll, FastHTML
Mobile Development: Swift, and React Native
User Experience Research Methods: Diary Studies, Interview Studies, User Studies, Participatory Workshops, Quantitative Methods, Qualitative Methods, Low and High-Fidelity Prototyping
Language: Spanish (Native); Chinese (Basic)

SELECTED WORK AND RESEARCH ROLES

Research Lab Lead, *Cornell Tech*, New York, NY **Jan 2020-Present**
- Conduct studies to **evaluate multimodal large language models vision understanding capabilities** — *OpenAI, Google, Cohere, Anthropic models*
- Create personalized **AI-powered visual interpretation assistants** to support people with visual impairments — *OpenAI, Google, Cohere models*
- Developed two iOS applications visually impaired people can use to receive AI-powered visual interpretations — *Swift*

Research Intern at Global Technologies Applied Research, *JPMorgan Chase & Co*, New York, NY **May-Aug 2024**
- Conducted user studies working under Blair MacIntyre leadership, Head of Immersive Technology and Spatial Computing Research at JPMC.
- **Prototyped multimodal screen reader spatial interactions** for Blind and Low Vision People. — React Native
- Explored use cases of developed prototypes with stakeholders such as branch managers, client associates, and the XR team at JPMC.

Jun-Aug 2023
- **Wrote** and **submitted patent** for immersive **data analysis**, accessible to Blind and Low Vision people.
- **Developed MVP** of **patent** and **tested** with **screen reader users** and accessibility experts. — React Native

SELECTED RESEARCH PROJECTS AND PUBLICATIONS

Ultra Personalized Large Language Models for long-shot autocompletion. **Work-in-progress** **Dec 2024 - Present**
Tobias Weinberg, **Ricardo E. Gonzalez Penuela,** Stephanie Valencia, Thijs Roumen
- Co-developed with lead author an ultra-personalized large language model (LLM) for autocompletion using 15.000 messages from a person with speech impairments collected over the course of 7 months.
- Co-led data filtering and designed training curriculum to finetune LLMs for ultra-personalized autocompletion.
- Evaluated open and closed source LLMs to deploy model on edge devices for offline availability and low latency. — Qwen3 models, Cohere models, OpenAI models.

One Does Not Simply 'Mm-hmm': Exploring Backchanneling in the AAC Micro-Culture **Jun 2025**
Paper in ASSETS 2025 (Main track, Acceptance 29.7%)
Tobias Weinberg, Claire O'Connor, **Ricardo E. Gonzalez Penuela,** Stephanie Valencia, Thijs Roumen
- Led participatory interactive workshop with 4 speech-generating device users with speech, intellectual or motor impairments to understand how they perform gestures and other cues to communicate.
- Analyzed videos and observations notes from workshop to derive design guidelines to support real-time presence and better conversational rhythm with speech-generating devices.

Towards Understanding the Use of MLLM-Enabled Applications for Visual Interpretation **Feb 2025**

by Blind and Low-Vision People. **Paper in CHI 2025 (Late-breaking track, Acceptance 32.83%)**
Ricardo Gonzalez, Gloria Hu, Sharon Lin, Tanisha Shende, Shiri Azenkot

- Led a 2-week diary study to evaluate the accuracy of visual interpretations generated with multimodal large language models to support visually impaired people in real life situations.
- Developed iOS application and prompt engineered model used during the study to provide visually impaired participants access visual information. — *Swift, OpenAI GPT-4o*
- Developed backend and collected over 700 user conversations and participants feedback — *AWS, Firebase*

Why So Serious? Exploring Timely Humorous Comments in AAC Through AI-Powered Interfaces. **Jan 2025**
Paper in CHI 2025 (Main Track, Acceptance 25.1%).
Awarded best paper honorable mention, Top 5%.
Awarded best demo, Top submission of all demonstrations.
Tobias Weinberg, Kowe Kadoma, **Ricardo Gonzalez**, Stephanie Valencia, Thijs Roumen

- Conducted a user study and a qualitative analysis to assess how well our AI-powered interface supports users with motor and intellectual impairments to create humorous comments in fast-paced conversations.
- Mentored first author on research methodologies such as qualitative analysis of interview data, and synthesizing findings

Investigating Use Cases of AI-Powered Scene Description Applications for Blind and Low Vision People. **May 2024**
Paper in CHI 2024 (Main Track, Acceptance 26.3%)
Ricardo Gonzalez, Jazmin Collins, Cynthia Bennett, Shiri Azenkot

- Collaborated in a mixed abilities research team (Blind, Low Vision, and Sighted) to conduct a longitudinal study to understand how Blind and Low Vision people use AI tools to access visual information in their daily lives.
- Developed iOS application participants used during the study to interact with an AI model to access visual information of their surroundings. — *Swift*
- Developed backend pipeline to collect participants feedback, and log usage patterns of the application. — *AWS, Firebase*

OTHER WORK EXPERIENCE

Visiting Researcher, *Columbia University*, New York, NY **May-Dec 2021**
Startup Full stack Engineer, *Leal*, Bogota, Colombia **Jan-Jun 2020**
Research Intern – Summer Research Fellowship, *Cornell Tech*, New York, NY **May-Sep 2019**

OTHER RESEARCH PUBLICATIONS

Hands-On: Using Gestures to Control Descriptions of a Virtual Environment for People with Visual Impairments. **Oct 2022**
Demo in UIST2022. Ricardo Gonzalez, W. Poremba, C. Trice, Shiri Azenkot

Molder: An Accessible Design Tool for Tactile Maps. **Apr 2020**
Paper in CHI 2020. L. Shi, Y. Zhao, **Ricardo Gonzalez**, E. Kupferstein, Shiri Azenkot

INVITED TALKS

"What Role Can A.I. Play in Blind and Low Vision People's Day-To-Day Experience?", New York, NY **Sep 2024**

- Invited as a panel speaker to the **arXiv Accessibility Forum 2024** to discuss about the applications of AI to support Blind and Low Vision people.

Designing Interactive AI Visual Guides for Blind and Low Vision People, New York, NY **June 2024**

- Presented in the **XR Access Symposium 2024** my research discussing the potential for AI as a personal assistant for Blind and Low Vision people in the real world.

PEER REVIEWER FOR ACADEMIC CONFERENCES

Conferences:

- **ACM CHI 2024, 2025. ACM MobileHCI 2022. ***Special Recognition for Exceptional Reviewing (**CHI 2024, 2x CHI 2025**)

SELECTED LEADERSHIP EXPERIENCE

XR Access Symposium 2025 – Exhibits Chair, New York, NY **April 2025-June 2025**

- Joined the organizing team as the **Exhibits Chair**. Managed in-person logistics of the event, and **vetted demonstrations** and **posters** to be presented during the event.

ASSETS Conference 2023 – Web and Graphics Design Chair, New York, NY **Nov 2022-Oct 2023**

- Joined the organizing team as the **Web and Graphics Design Chair.** Designed, coded and deployed the conference's website in collaboration with the ACM infrastructure team.