

Cole Biehle

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EDUCATION

Carnegie Mellon School of Computer Science

Master of Human-Computer Interaction

Pittsburgh, PA

Aug 2026

- **Selected Coursework (Completed & Planned):** DevOps: Engineering for Secure Development and Deployment, Introduction to Deep Learning, Programming Interactive Experiences, Interactive Data Science, Prototyping Algorithmic Experiences, Human AI Interaction, User-Centered Research and Evaluation, AI Venture Studio, AI Augmented Designer

University of California, San Diego

Bachelor of Science in Cognitive Science (Specialization in Design & Interaction)

La Jolla, CA

Jun 2022

Minor in Computer Science

- **Selected Coursework:** Advanced Data Structures, Object-Oriented Programming, Computer Organization & Systems Programming, Discrete Mathematics, Linear Algebra, Data Science, Software Tools & Techniques Lab, Prototyping, Practicum in Professional Web Design, Engineering Psychology, Startup Studio, Social Computing

RESEARCH EXPERIENCE

Carnegie Mellon University, Kittur Lab | Research Assistant (PI: Dr. Niki Kittur)

Supported by Toyota Research Institute

Pittsburgh, PA

Aug 2025 - Present

- Executed a deep qualitative study on R&D professional interviews to systematically identify structural and cognitive bottlenecks in organizational ideation workflows.
- Derived functional and technical requirements from research findings to inform the design specifications of novel AI-augmentation tools, setting the groundwork for validation through strategic pilot partnerships.

UC San Diego, ProtoLab | Research Assistant (PI: Dr. Steven Dow)

Supported by NSF Award #2009003

La Jolla, CA

Jan 2024 - Present

- Designed and engineered a multi-agent LLM-driven system using React to model diverse perspectives and evaluate cognitively-informed scaffolding in augmenting academic writing. Research prepared for submission to UIST 2026.
- Executed a mixed-methods analysis on 172 participants, investigating the impact of LLM-driven conversational cues on group ideation quality and conversational divergence. Accepted to Collective Intelligence (CI) 2025.
- Conceptualized and designed a crowdsourcing system (first-author paper) to integrate data validation into news platforms, facilitating data-driven public discourse and collective sensemaking. Accepted at Computation + Journalism (C+J) 2024.

UC San Diego, HXI Lab | Research Assistant (PI: Dr. Nadir Weibel)

Supported by Lytx, Inc.

La Jolla, CA

Jan 2025 - Present

- Executed a large-scale empirical Qualtrics study (n=200) with an industry partner to analyze organizational knowledge transfer barriers and improve commercial road safety. First-author research prepared for submission to L@S 2026.
- Quantitatively evaluated manager-led coaching initiatives, achieving a 24% improvement in driving behavior and a 50% reduction in hazardous incidents compared to passive methods.
- Analysis demonstrated improvements in 7 out of 12 core driving behaviors, validating the efficacy of scalable, resource-intensive knowledge-sharing techniques.

UC San Diego, ProtoLab | Associate Researcher (PI: Dr. Steven Dow)

Supported by NSF Award #2009003

La Jolla, CA

Jul 2022 - Sep 2022

- Conducted mixed-methods analysis of participation dynamics across in-person and remote learning contexts, developing a Python script to code and quantify turn-taking patterns across 30+ hours of classroom recordings (n=80 students).

PUBLICATIONS

[Participatory Journalism: Stakeholder Perspectives on Enhancing Online Discussion through Data Talk](#). Cole Biehle, Irigreddy, L Sun, SP Dow. *In Proceedings of the Computation + Journalism Symposium (C+J 2024)*. (First Author)

[Cueing the Crowd: LLM-Driven Conversational Cues Across Different Meeting Modalities Increase Topical Diversity of Generated Ideas](#). JA Rayan, S Jiang, N Balaji, J Wang, I Gross, Cole Biehle, SP Dow. *In Proceedings of the ACM Conference on Collective Intelligence (CI 2025)*.

[Comparative Effectiveness of Coaching Modalities in Commercial Fleet Operations](#). N Weibel, M Yarmand, Cole Biehle, E Mac, H Lu, V Xiang, G Strudler, P Strudler. *eScholarship Technical Report 2025*.

[Evaluating and Optimizing Coaching Methodologies for Fleet Safety and Performance: An Evidence-Based Analysis of Differentiation and Optimization Opportunities](#). N Weibel, M Yarmand, Cole Biehle, E Mac, H Lu, V Xiang. *eScholarship Technical Report 2025*.

PRESENTATIONS

Computation + Journalism Symposium Paper Presenter (First Author) <i>Crowdsourcing to Support Data-Talk</i>	Boston, MA Oct 2024
Mindswarms Tech Series Speaker <i>Analysis & Insight Generation: Best Practices for Research Translation</i>	San Francisco, CA Jan 2023
UC San Diego Design Lab Industry UXR Panelist <i>Translating Academic Research to Industry Applications</i>	La Jolla, CA Jul 2023
UC San Diego's ACM Industry UXR Panelist <i>Connecting HCI Research to Business & Engineering Strategy</i>	La Jolla, CA Jun 2025
Cognitive Science Student Association Industry UXR Panelist <i>HCI & Research Opportunities in Tech</i>	La Jolla, CA May 2025
Design Co Industry UXR Panelist <i>Framing Research and Design Impact</i>	La Jolla, CA Jun 2025
COGS 127 Course Guest Lecturer (UXR Spotlight) <i>Navigating a Research Career in HCI</i>	La Jolla, CA Mar 2025

TEACHING EXPERIENCE

Carnegie Mellon University, HCI Institute Graduate Teaching Assistant <i>The AI Augmented Designer</i> <ul style="list-style-type: none">Designed rigorous evaluation rubrics for projects on human-AI collaboration and the technical outputs of generative design.Led studio critiques and synthesized feedback on prompt engineering, system architecture, and interaction design for LLM- and diffusion-model-based tools, translating algorithmic concepts into viable product solutions.Mentored 50 students on research-through-design methods, guiding iterative prototyping of AI-augmented creative tools.	Pittsburgh, PA Spring 2026
UC San Diego, Cognitive Science Department Undergraduate Teaching Assistant <i>Social Computing</i> <ul style="list-style-type: none">Led weekly discussion sections for 30+ students, facilitating analysis of literature on collaborative system design principles.Managed operations and mentored 80 students (20 teams), guiding methodology application from problem identification to product launch.	La Jolla, CA Spring 2022
<i>Start-up Studio</i> <ul style="list-style-type: none">Co-developed course materials for end-to-end product development, emphasizing design thinking and iterative prototyping.Managed operations and mentored 80 students across 20 teams, guiding from problem identification to product launch.	Winter 2021
<i>Cyborgs Now and Into The Future</i> <ul style="list-style-type: none">Designed assignments bridging distributed cognition theory and HCI applications, focused on human-technology integration.Supported lectures for 200+ students and provided substantive project feedback on speculative emerging technology.	Fall 2021

INSTRUCTIONAL MENTORSHIP

UC San Diego, The Basement (Blackstone Launchpad Incubator) Mentor <ul style="list-style-type: none">Appointed for entrepreneurial excellence to mentor 10+ startup teams in translating user insights to product strategy.Guidance focused on research rigor and implementing UX research and design methodologies for product decision-making.	La Jolla, CA Sep 2024 - Present
UC San Diego, The Design Lab Curriculum Developer & Instructional Mentor	La Jolla, CA

Jun 2024 - Mar 2025

- Spearheaded the pedagogical redesign of a competitive two-year curriculum, developing content grounded in design thinking.
- Integrated learning progressions featuring industry collaborations and critiques with global design leaders.
- Mentored 15+ students through end-to-end design projects, covering user research, prototyping, and evaluation.

UC San Diego, Cognitive Science Department | Curriculum Researcher

La Jolla, CA

Jan 2024 - Aug 2025

- Established the UCSD Design Lab Alumni Network and proposed data-driven curriculum reforms (with Dr. Scott Klemmer) to the Cogs Department, advocating for increased CS requirements based on empirical analysis of 100+ graduate surveys.

INDUSTRY EXPERIENCE

Cole-Powered Innovations, LLC | Founder & CEO

San Diego, CA

Dec 2023 - Present

- Founded an innovation consultancy for Fortune 500 clients, driving an estimated \$3.5M strategic impact across 20+ projects.
- Mentored 50+ startups on research rigor and product-market fit, leading to 200% co-founder matching, securing \$150k+ pre-seed funding, and acceptance into incubators (e.g., Blackstone Launchpad).

Mindswarms (Video Survey Platform) | UX Research Consultant

San Francisco, CA

Sep 2022 - Feb 2025

Clients: Google, Amazon, Microsoft, Nike, American Express

- Conducted 15+ high-stakes research studies to guide product strategy for platforms serving billions of daily users.
- Engineered an internal analysis tool that reduced video review time by 30%, significantly enhancing research efficiency.

Selected Project Highlights:

Google (Pixel, Search, Lens, Assistant, YouTube, Ads, Earth Engine)

- Synthesized user research from early AI concept tests into actionable design and resource guidance for 10+ product teams.
- Directly influenced strategic roadmaps, ensuring resource dedication for critical features like mitigating Pixel frustration of gesture navigation by 25%, improving Lens accessibility by 50%, and launching the 'What people are saying' Search pill.

Amazon (Halo)

- Designed a multi-purpose screener that segmented 40+ users and captured early prototype reactions, accelerating strategic feedback delivery by 6 weeks and overall cutting the potential software iteration time in half.

Microsoft (Teams)

- Salvaged international feature research via deep qualitative analysis of corrupted interview data (10% of footage), delivering critical insights that informed essential refinements for real-time, multi-language translation and mitigated launch risk.

Nike (Nike, SNKRS, NTC, NRC)

- Led end-to-end research design on 100+ consumers, prototyping online ads across four apps and providing a comprehensive consumer landscape that informed the direction of a multi-million dollar in-store apparel campaign.

American Express

- Moderated interviews and analyzed artifacts from 80+ participants, delivering insights that shaped cardholder acquisition features and provided strategies to increase the conversion rate of low-income households by 3x.

Zelig (GenAI Startup for Virtual Fashion) | UX Research Lead

Beverly Hills, CA

Jun 2023 - Dec 2023

- Drove the strategic narrative and was instrumental in securing a successful \$15M Series A raise at \$100M valuation, presenting GenAI product strategy and user findings to investors and the board of directors.
- Led an end-to-end mixed-methods research program (n=50 interviews, n=200 surveys) and competitive analysis (30+ companies) to define product-market fit for AI fashion tools, ensuring successful positioning within the luxury goods sector.
- Translated research insights into a prioritized feature framework, aligning the product roadmap and directing cross-functional engineering and design collaboration to accelerate prototyping and ship time by 40%.

UC San Diego, Design Lab | Research Project Manager & Developer

La Jolla, CA

Jun 2024 - Mar 2025

- Led Information Architecture redesign and development of the Design Lab website, improving accessibility and discoverability by 250% for 2,000+ students. <https://designlab.ucsd.edu/>
- Designed and launched a housing-focused challenge, developed the website and received 50+ proposals from organizations and schools; allocated \$5,000+ in funding and facilitated mentorship for implementation. <https://d4sd.org/>
- Developed a storytelling platform (Svelte, Firebase) for a community-engaged research project on housing insecurity, enabling 10+ unhoused individuals to express lived experiences in public discourse. <https://storiesunsheltered.ucsd.edu/>

- Synthesized 100+ responses from design leaders across 20+ countries at the Design Policy Conference to develop a strategic framework for democratizing design practice in government, education, and business sectors.

Startups (Flock & Crib) | Founder & CEO

La Jolla, CA
Sep 2022 - May 2024

- Accepted into Blackstone Launchpad Incubator (x2) and StartR Inclusion+Impact Incubator.

HONORS & AWARDS

Finalist , Global Challenge Lab (Design Challenge)	2024
Provost Honors , UC San Diego	2019-2022
Warren College Honors Society , UC San Diego	2019-2022
Honorable Mention , Mindshifts on Megafire (Design Challenge)	2022

SERVICE & LEADERSHIP

Collective Intelligence 2025 Website Co-Chair <i>Development of the Official Conference Website: https://ci.acm.org/2025/</i>	La Jolla, CA July 2025 - Aug 2025
CMU SCS Master's Student Advisory Committee Student Representative <i>Strategic Integration of Computer Science Graduate Programs</i>	Pittsburgh, PA Aug 2025 - Present
UI for AI Researcher <i>AI Design Principles for Practitioners: https://medium.com/ui-for-ai</i>	Pittsburgh, PA Aug 2025 - Present
UC San Diego, The Basement's Demo Day Master of Ceremonies <i>Yearly Office of Innovation & Commercialization Showcase</i>	La Jolla, CA Jun 2025
School of Young Entrepreneurs Instructor <i>Workshops on Design Thinking Methodology</i>	La Jolla, CA Jul 2024 & Jul 2025
UC San Diego, Triton Tank Startup Pitch Judge <i>Bi-yearly Office of Innovation & Commercialization Pitch Competition</i>	La Jolla, CA Sep 2024
Design for America Industry Judge <i>Student's Final Projects - Product Design</i>	La Jolla, CA Jun 2025
UC San Diego, Cognitive Science Department Final Project Judge (x2) <i>Student's Final Projects - Product Design</i>	La Jolla, CA Jun 2024 & Jun 2025
UC San Diego, The Design Lab Lead Volunteer <i>Grand Opening of the Design Innovation Building</i>	La Jolla, CA Nov 2021

SKILLS

Programming Languages: Python, React, JavaScript, HTML/CSS, C/C++, Java

Machine Learning: CNN, LLMs, SVM, KNN, Naive Bayes, Decision Trees, Regression Models

Data & Development Tools: PyTorch, Scikit, Pandas, NumPy, Node.js, npm

Research Methodology: Experimental Design, Statistical Modeling, Thematic Analysis, System Evaluation, Usability Testing, A/B Testing, User Testing Moderation, Qualtrics, Competitive Analysis

Design & Collaboration Tools: Figma, Prototyping, Information Architecture, Web/App Development, Adobe Creative Suite, Apple HIG, Google Material Design, IBM Carbon