

Shikha Shah

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WORK EXPERIENCE

AR Haptic Design Engineer | Accenture x UC Berkeley

September 2023 – Present

- Successfully leading a team of 4 to design a computer-vision based Augmented Reality coaching system using multimodal bio-feedback
- Leveraging iterative design thinking process and critique to create an accessible, ergonomic, and user centered Non-Visual AR based audial training of physical tasks for healthcare sector
- Implementing an end-to-end demonstration through real-time guidance and minimized visual interaction, testing the prototype on 5 physiotherapists

Haptic Design Engineer | Augmental Technologies, San Francisco

July 2023 – September 2023

- Led research on state-of-the-art hardware solution to propose a novel interaction design for people with quadriplegia to interact with smartphones, computers and other connected devices
- Designed 15 test solutions, designed experiments, implemented hardware and mechanical changes to increase the robustness by 90% of intra-oral human interface device reducing 21% inaccuracy in sensor data collection

Senior Design Engineer | NXP Semiconductors, India

January 2019 – June 2022

- Collaborated cross-functionally with teams located in different time zones, including India, Austin, and Munich, to facilitate seamless communication, resolve design challenges, and ensure efficient project coordination.
- Owned complex IPs on 16 and 5nm finFET technology ASIC Physical Design RTL to GDS flow including Dual Data Rate and High-Security Engine with 400 Mhz clock frequency, 950k gates and utilization of 74.4%
- Possess a strong analytical mindset honed in 3+ years of physical design, adaptable to solving complex design challenges in research, extracting actionable insights, and facilitating data-driven decision-making improvements by 30%

ACADEMIC EXPERIENCE

Interactive Audio Media using Conversational AI | Thesis UC Berkeley

September 2023 – Present

- Developing from ground up, an interactive, Generative AI-powered podcasting platform, bridging the gap between passive consumption and dynamic interaction resulting in a 25% increase in active user engagement and knowledge retention for audio media consumption
- Leveraged 4 conversational AI technologies like voice cloning and speech processing to source unstructured contextual knowledge using Retrieval Augmented Generation (Llama Index) on OpenAI's GPT 4 LLM, resulting in consequential novel knowledge generation based on existing podcasts

Biomechanics and Biosensing | UC Berkeley

January 2023 – Present

- Executed an electromechanical voice-controlled wearable for posture correction using tactile sensing arrays and state machine algorithms. It resulted in a 60% boost in posture correction efficiency through 3D printed assistive devices
- Led research on embodied design and conducted hands-on experiments on tendon-driven finger mechanisms using EMG
- Analyzed stimuli response data and researched on interpreting actionable insights on increase of biosensory response to anthropomorphized images using Empatica, Pupil gaze tracker, Neurosky Mind EEG.

EDUCATION

University of California, Berkeley

Master of Design - HCI, Innovation, Strategy
Graduate Student Instructor, EECS UC Berkeley
Expected graduation December 2023

Nirma University, India

B.Tech - Electronics and Communication Engineering
Technical Head, Indian Soc. of Technical Education
August 2015 - May 2019

SKILLS

Design Methodologies

Empathy, Design Thinking, Human-Computer Interaction, Interface Design, User Experience Design, User Research, Human Centered Design, Problem Solving, Design Strategy, Storyboarding, Rapid Prototyping, 3D Modeling, Usability Testing

Design Engineer

Sensors, Gesture Recognition, Actuators, Biosensory Computing, Human Perception, Tangible Computing, Soft Robotics, IoT, Digital Circuits, VLSI, Physical Design, STA

Design Tools/Frameworks

C/C++, Python, Arduino & Raspberry pi microcontrollers, Processing, Unity, OpenCV, OpenAI API, Llama Index, Touch Designer, Blender, Fusion 360, CAD, Adobe Creative Suite, Figma, Audacity, Photoshop

Chip Design Tools

IC Compiler 2, Design Compiler, Conformal, PrimeTime, VCLP, Shell Scripting, Verilog, Eagle (PCB design)

HONORS & AWARDS

SF Design Week Award 2023

Honorable Mention in Student Category

SkyDeck Pad-13, Berkeley 2023

Entrepreneur in Residence, Design Strategist

Collider Cup XI, SCET, UC Berkeley 2022

Winner for innovative venture

CalHacks Hackathon, San Francisco 2022

Winner HealthTech, Designed app to predict fall detection and locate nearby healthcare facilities in-network with insurance

MDes Distinguished Scholar Award 2022

Awarded for exceptional skills

NXP Semiconductors, Global 2021

Published Company Trade Secret paper, Awarded for raising the bar, taking initiative, demonstrating competence