

Charan Pushpanathan Prabavathi

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Research Interests

Human-computer interaction, digital transformation, accessibility, qualitative and quantitative research, learning to use, human-AI interaction, interactive computing, CSCW.

Education

The Pennsylvania State University, University Park, PA Aug 2023 to Expected May 2025
Master of Science, Informatics GPA: 4.0/4.0
Concentration: Human-Computer Interaction
Advisor: Dr. John M. Carroll

Kumaraguru College of Technology, Coimbatore, India Aug 2019 to Apr 2023
Affl. Anna University
Bachelor's of Engineering, Computer Science GPA: 3.4/4.0
Advisor: Dr. Latha & Dr. Kanagaraj

Research Experience

Collaboration Innovation Laboratory State College, Pennsylvania
Graduate Research Assistant Feb 2024 to Present

- Conducted co-parenting research under Professor John M. Carroll, in collaboration with two PhD students and a Postdoc.
- Read over 80 research papers on coparenting, closeness, and togetherness across HCI, familial and personal relationships, sociology, and anthropology. Contributed to the writing literature review, discussions, and structuring the research direction.
- Leading the design of a co-parenting technology system as a main author with a PhD student for a prototype study; work is in progress with plans to submit as extended abstracts.
- Exploring Human-AI interaction frameworks, currently working on a brief literature review study.

Professional Experience

HDFC Bank Limited Mumbai, India
Product Designer Intern Nov 2022 to Jun 2023

- Spearheaded design efforts in account aggregator financial data sharing, bill payments & utilities, schemes, lending services, consumer rewards, and payments.
- Implemented on comprehensive benchmarking activities resulting in visual design enhancements. Led innovation assistive technology product ideation to build phase as an individual.
- Revamped interfaces for digital banking (achieving a 93% User Acceptance Testing (UAT) success rate for the new system), and performed field studies, and developed information architectures.

Angel Startup in Capital Market (Closed Startup)

Founding Member and Designer

Remote, India
Aug 2022 to Oct 2022

- As founding designer, led design and strategy for the biggest capital market platform for supporting social learning and investing.
- Planned interfaces for prototyping presented in pitches, conceptualized the business model, and catered to customer requirements.
- Explored diverse concepts in the Indian capital markets, spanning stocks, brokerage, lending, and investments.
- A team of 6 individuals, ahead of seed funding, has closed the startup due to a regulatory impact in the securities market.

Freecharge backed by Axis Bank Limited

Product Designer Intern

Bangalore, India
Jul 2021 to Jan 2022

- Focused on Neo-Banking (20M users) emailers, Pay-later (30M users) features, the wallet application for Axis Bank, mutual funds, utility bill payments, and user account management.
- Designed interfaces and product revamps, PWAs, and wireframes, and spearheaded qualitative research. Research focuses on user interviews, field studies, usability tests, A/B tests, and design iterations.
- Nominated for the Tech Award due to significant contributions to Neo-banking emailers along with ten senior designers.

Teaching Experience

IST 402 - Emerging Issues and Technology

Aug 2024 to Present

Assisting Dr. Xiaolong Luke Zhang

IST 504 - Foundations of Theories and Methods of IST

Aug 2024 to Present

Assisting Dr. Xiaolong Luke Zhang

Publications

C1. [Under review] Lin, Y.-F., Li, X., Huang, W.-H., **Prabavathi, C. P.**, Cai, J., & Carroll, J.M (2025). Parental collaboration and closeness: A co-design exploration with new couple parents. In *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems*. Association for Computing Machinery.

C2. [Work under Progress] Charan, Ya Fang lin, Carroll J.M (2025). Co-parenting: Awareness and Validation. *CHI Late breaking work*.

Selective Projects

Post and Gather

Dr. Frank E Ritter

Part of Course: IST 521: HCI - Human and Technology

Feb 2024

- Designed and developed Post and Gather System, event aggregators for Penn State University. Created a post system for students to stay informed about events. Gather system as a publisher tool for event organizers.
- Conducted qualitative studies, thematic analysis, designed prototypes, and produced documentation.

Language Model

Dr. Syed Billah

Part of Course, IST 597: HCAI

Sep 2024

- NLU-Implemented agent tools and prompt tuning for a generic chatbot to perform arithmetic operations and enhance web crawling for newsroom articles in real-time content understanding.
- Fine-tuned a smaller LLM (GPT-2) using the PEFT library and LoRA fine tuning to enhance its performance for converting natural language queries into First-Order Logic (FOL) statements, and developed an automatic verification process with LangChain integration for response accuracy.

Invited Talks

How to present a presentation, CS department, Kumaraguru College of Technology Dec 2022

Persuasive Design: Influencing Billions of Mobile Users, Professor's table Jan 2023

Skills

- **Software:** Sketch, Figma, Keynote, Adobe XD, Zeplin, Overflow
- **Mixed Methods (Qualitative & Quantitative):** Data Collection (Verbal protocol analysis, Interview, Survey); Data Analysis (Thematic Analysis); UX evaluation (Usability Testing, A/B Testing, Competitive Analysis).
- **Programming Languages:** Python, JavaScript, NoSql Database, Cloud computing, HTML/CSS, and Data visualization.

Test Scores

American English Oral Communicative Test (AEOCPT), Pennsylvania State University.

Score: 293/300

Jan 2024