Pa Chang Vang

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EDUCATION

MS Human Factors and Ergonomics *(4.0/4.0)* — Expected May 2026
University of Minnesota, Twin Cities | Minneapolis, MN
- **Relevant Coursework**: Human Centered Design to Improve Complex Systems, Usability & Human Factors, User Interface Design, Injury Prevention, Quantitative & Qualitative Research Methods, Wearable Technology

BA Psychology | Minor in Biology — Completed December 2020
The College of Saint Scholastica | Duluth, MN

EXPERIENCES

Graduate Research Assistant — University of Minnesota — August 2023 - Present
CoLab Design Research Group
- Spearheaded 60 A/B usability evaluations of prototypes with design teams and stakeholders to assess workflows and user comprehension, collecting qualitative and quantitative data from 100+ participants in 3 months
- Authored and reviewed technical research reports and study documentation, clearly communicating methods, findings, and limitations to support evidence-based design decisions
- Conducted a comprehensive review of 120+ sources, applying open coding and thematic analysis frameworks to design a mixed-method research study (interview, field observation, survey) per the research regulatory committee

Human Factors Engineering & User Experience Intern — Medtronic — August 2024 - August 2025
- Independently supported human factors engineering activities across three concurrent medical device projects within the Cardiac Rhythm Management (CRM) portfolio, coordinating timelines, deliverables, and cross-functional inputs Championed task analysis and use-related risk analysis (UEA) for a new retrieval system of a transcatheter pacing system, defining critical tasks, potential use errors, and risk control recommendations aligned with IEC 62366-1 and ISO 14971
- Co-led 33+ formative usability evaluations (35+ testing hours) across 4 iterative study rounds to identify use-related hazards, workflow inefficiencies, and potential use errors in 100+ design concepts involving 30+ representative users
- Facilitated end-to-end formative human factors activities, including study protocol development, test dry runs, participant criteria definition, and concept prototyping to evaluate hardware and software user interfaces against intended use scenarios
- Synthesized qualitative and quantitative usability data into human factors reports and design recommendations, communicating findings to 6+ cross-functional teams (systems, software, quality, reliability/safety, R&D)
- Participated in Voice of Customer (VOC) engagements (e.g., Technical Advisory Committee, Japan Advisory Board) to capture user needs and use scenarios, translating insights into user requirements and risk considerations
- Supported development of User Interface Design Specifications (UIDS) and early design verification activities, ensuring user interface requirements aligned with human factors findings, design controls, and regulatory expectations
- Applied human-centered design and usability engineering principles through user research to illustrate system-level impacts on user workflows and safety, contributing to submission for the 2025 Human-Centered Design Impact Award

Experience Research & Design Intern — Highmark Health — May - August 2024
- Assisted with ethnographic and semi-structured interviews (n=29) to evaluate user workflows, decision-making processes, and pain points in women's health, synthesizing 200+ qualitative data points into actionable insights within 10 weeks
- Contributed to $300K in annual cost savings by supporting in-house qualitative and quantitative research efforts that informed service optimization and design decisions
- Collaborated with the Alternative World Experiences (AWE) planning committee to ideate, plan, execute, and lead a workshop about cover mock-up stories (LUMA system) with alternative audiences

Product Designer (Usability-Focused) — **Co.Lab** — March - May 2023
- Developed and executed a usability evaluation plan based on defined user profiles, facilitating 10+ interviews and prototype testing to assess task flow, user comprehension, and interaction issues
- Collaborated with cross-functional teams using agile (SCRUM) methods to iterate on digital concepts and deliver a functional MVP in an 8-week sprint

SKILLS

Human Factors & Usability: formative usability testing, task analysis & use error analysis (UEA), use-related risk identification & mitigation, critical task identification, cognitive walkthroughs, heuristic analysis

Regulatory & Medical Device: FDA Human Factors Guidance, Marketing Submissions, IEC 62366-1 (Usability Engineering), IEC 82304-1 (Health Software), ISO 14971 (Risk Management), IEC 60601-1 (Medical Device Electrical Safety)

Research Methods: qualitative & quantitative research, semi-structured interviews, contextual inquiry, surveys (Likert, System Usability Scale)