Anna Konstant
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SUMMARY

Seeking human factors or ergonomics industry job.

Interests: Human-centered and end-user design, ergonomics, user research, human factors

EDUCATION

Doctor of Philosophy, Industrial and Systems Engineering — **December 2024**
University of Wisconsin-Madison / Madison, WI — GPA: 4.00 /4.00

Master of Science in Engineering, Industrial Engineering — **August 2020**
Western Michigan University / Kalamazoo, MI — GPA: 4.00 /4.00

Bachelor of Science in Engineering, Industrial and Entrepreneurial Engineering — **April 2018**
Western Michigan University / Kalamazoo, MI — GPA: 3.63/4.00
Minor in Spanish (advanced) & Minor in Math

RESEARCH EXPERIENCE

Graduate Research Assistant, September 2020-Present
Occupational Ergonomics and Biomechanics Lab – Department of Industrial and Systems Engineering, UW-Madison

Human-Robot Teaming in Aviation Manufacturing – NASA, The Boeing Company

- Utilized statistical methods in R to inform robotic viewpoint selection algorithm from a virtual experiment
- Planned and executed user study with 20 participants to study robotic sanding on performance and ergonomics
- Analyzed data from surveys, observations, and quantitative human data to test hypotheses using statistical methods
- Compiled literature review in human factors and experimental results in final research manuscripts (HFES)
- Recommended improvements for human-robot collaborations to stakeholders through presentations

Human-Robot Collaboration for Enhancing Manual Work – General Motors, Mercury Marine

- Collected video data for jobs in manufacturing plants to identify automation challenges and research questions
- Searched ergonomic databases to collect strength data relevant to the collected observations
- Applied human factors and ergonomic principles to model human behavior and collect ergonomic measurements
- Implemented the algorithm into manufacturing jobs to interpret the impact of a robot on the physical stress and strain of the human (WIP)
- Partnered with mechanical engineers, computer scientists, economists, and industrial engineers to study different metrics important to create meaningful insights on robots in manufacturing
- Reported results and methods in a research manuscript (WIP) for IEEE

Wearable Robotics in Aviation Manufacturing, The Boeing Company

- Identified potential research topics to study a hand exoskeleton on simplified aviation manufacturing jobs
- Managed a team of undergraduates for human-subject data collection
- Analyzed human-subject data to draw conclusions on the usability of exoskeletons in the workplace
- Co-authored a final research manuscript with a literature review and key results from the experiment (WIP)
- Presented results to stakeholders at Boeing and provided recommendations on the exoskeleton

Graduate Research Assistant, April 2018-May 2020
Human Performance Institute – Department of Industrial Engineering, WMU

Consumer Seat Preference Research, Haworth

- Participated in user experience research on seat preferences and current trends among consumers
- Measured seat comfort with quantitative and qualitative data in a usability study
- Analyzed data and created visualizations to form conclusions about user preference and to present findings to stakeholders Haworth executives and engineers

Chair Control Usability Research

- Conducted a literature review in human factors and user experience in chair control design
- Utilized experimental design to measure the efficiency, effectiveness, and satisfaction of chair controls
- Conducted a pilot study with 14 participants collecting objective and subjective measures
- Analyzed data using Pareto Analysis and ANOVA to identify key findings

INDUSTRY EXPERIENCE

Supply Chain Design Intern - CNH Industrial **Racine, WI | 05/2018 – 08/2018**

- Expected savings of $100,000 through an internal Kanban system
- Analyzed cost between new alternatives, such as suppliers, parts, or locations to measure logistical impacts
- Created and improved SOPs for air expedite and chargeback training that is used across the company
- Designed Access databases for a supplier audit and transportation logistics

Strategic Research Intern - Yanfeng Automotive Interiors **Holland, MI | 05/2017 – 08/2017**

- Conducted usability studies, interviews, surveys, and focus groups to test the effects of sensorial perceptions of materials and hands-on operations of parts
- Analyzed quantitative and qualitative data using Excel and R to finalize conclusions & results
- Researched current mobility trends to provide insight to researchers in Europe
- Engaged in user experience studies & focus groups to understand user preferences in vehicles

Intern - Seven Generations Architects and Engineers **Kalamazoo, MI | 01/2016 - 07/2016**

- Assisted architects and engineers on obtaining points for Gold LEED Certification
- Created project proposals to send out and win projects for the company

SKILLS

- **Statistical Analysis:** Minitab, R, Excel
- SurveyMonkey
- Microsoft Office (Word, PPT, Excel, Access)
- Machine Learning (R)
- Experimental Design
- Written and Verbal Communication
- Literature Reviews
- Data Visualization
- Collaboration

Certifications:

- Six Sigma Green Belt
- Fundamentals of Engineering Exam
- Social & Behavioral Sciences Researchers 1

LEADERSHIP

Human Factors and Ergonomics Society, UW-Madison Student Chapter, President, 2023-2-24

- Lead an executive board of seven students to plan and run social, professional, networking, and alumni events
- Supported executive board for two years prior as Finance Chair by managing budget, member dues, and bank account

INTEGRATE, NSF NRT Training Grant, UW-Madison, Trainee, 2022-2023

- Influenced a STEM certificate program within UW-Madison through discussion, lectures, and poster presentations about the impact of robotics on human factors and ergonomics
- Collaborated with mechanical engineers, computer scientists, economists, and psychologists to understand the importance of communication, leadership, ethics, and teamwork

Institute of Industrial and System Engineers, WMU Student Chapter, President, 2018-2019

- Managed technical paper competition for IISE Great Lakes Regional Conference at WMU in 2020
- Lead meetings of e-board and student members
- Organized Six Sigma training and IE tours at Stryker and Bells

Student Ambassador, WMU, 05/2015 – 04/2018

- Presented to over a 100 students and parents about the engineering program at WMU

National Societies: Human Factors and Ergonomics Society (HFES), Tau Beta Pi, Alpha Lambda Delta, Alpha Pi Mu

HONORS AND AWARDS

- Student Travel Award, Occupational Ergonomics Technical Group, HFES 2023
- Awarded 2nd place – IISE Regional Technical Paper Competition, 2019
- Western Michigan University, Industrial Engineering, Outstanding Service Award, 2019
- Western Michigan University, Industrial Engineering, Outstanding Student Award, 2018
- Awarded 1st place - Innovation Design Competition at IISE National Conference, 2018
- Awarded 3rd place - Innovation Day at WMU, 2016