Sneha R. Krishna Kumaran

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RESEARCH INTRESTS

I am interested in the intersection of design and technology. My work focuses on how designers use online communities to get feedback on their work as they iterate and how this representation can influence feedback provider engagement in the process. I look forward to continue building tools that can encourage users to get feedback at earlier design stages.

EDUCATION

University of Illinois at Urbana-Champaign, Urbana, IL
PhD, Computer Science, **GPA: 4.00/4.00**   **August 2015—Expected May 2021**

Oregon State University, Corvallis, OR
BS, Computer Science, **GPA: 3.98/4.00**,
Thesis: "Identifying a Ranking of Plant Preferences for a Pollinator", June 2015   **September 2012—June 2015**

RESEARCH EXPERIENCE

Representation of designs in online communities: University of Illinois, Urbana, IL.   **September 2017 – Present**
Many people go to online communities, such as Reddit, to get feedback on projects ranging from resumes to graphic design, to product design. We built a web crawler to track posts requesting feedback and looked at how the project owners represented their design. We aim to determine how users of online communities decide to represent their work and what feedback they get.

Methods for improved peer feedback in design education: University of Illinois, Urbana, IL.   **August 2015 – May 2017**
Conducted a classroom study to provide empirical evidence for how mentorship and providing context affect the feedback quality and the engagement students have with the feedback in a product design course. This study required both qualitative and quantitative analysis.
Paper: Increasing Quality and Involvement in Online Peer Feedback Exchange (CSCW 2018; Acceptance Rate: 27%)

Cross-domain and cross-culture collaboration: Bosch, Pittsburgh, PA   **May 2017—August 2017**
Large corporations often consist of small internal teams that function independently from one another. Therefore, it can be difficult for teams with different expertise to collaborate and build off of each other's ideas. To address this, we developed a method that can match teams to one another based on a schema of the challenges they face in addition to their expertise.

Undergraduate Research Assistant: Oregon State University, Corvallis, OR   **September 2013 – June 2015**
Modeled a pollinator's interaction with various plant species in a meadow
Used a multinomial model and gradient descent to explain the number of visits a pollinator was observed making
Found that assigning a preference to each plant improved the model
Cumulated in an undergraduate thesis

TECHNICAL EXPERIENCE

Research Intern: Bosch, Pittsburgh, PA.   **May 2017—August2017**
Developed a MEAN based social community for expert technicians to share their knowledge and novices to learn. This app displayed information that was gathered as a chatbot (built using api.ai) asked questions to a mechanic about his work process.

Validation Intern: Intel Corporation, Hillsboro, OR.   **June 2015 – August 2015**
Developed a kernel driver for firmware security validation of Intel's Xeon Phi software stack
Added two modules to test for unique CPU APIC IDs and correct register access types utilizing Python and C++ extensions
Cross-compiled the driver to test on the older Xeon Phi Knight's Corner coprocessor

Software Intern: Intel Corporation, Hillsboro, OR.   **June 2014 – September 2014**
Automated tests and created regression tests for the security team of the Intel Xeon Phi software stack for Linux and Windows
Worked autonomously to write several shell scripts for Linux and Windows to help the automation of the tests
Reported progress to two full-time employees

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PUBLICATIONS

Sneha R. Krishna Kumaran, Deana C. McDonagh, and Brian P. Bailey. 2017. Increasing Quality and Involvement in Online Peer Feedback Exchange. Proceedings of the ACM Human-Computer Interaction. 1, 1, Article 63 (To Appear), 18 pages. https://doi.org/10.1145/3134698

CLASS PROJECTS

Charta: A Visual Map of Papers in a Researcher's Library, Urbana, IL.　　　　**August 2015 – December 2015**
Developed the user interface using a JavaScript framework as a term project for the User-Interface Design course
Worked in a group of 5 computer science students at various levels of education
Created an innovate way to visualize how the ideas in research papers are connected

Home Sensor to Optimize Energy Use and Save Money, Corvallis, OR.　　　　**September 2014 – June 2015**
Developed the user interface for a home energy monitoring and control system
Provided the user information about their energy use and optimized
Collaborated with electrical engineers

Wearable Skin Sensor for Research in Music, Corvallis, OR.　　　　**December 2013 – June 2014**
Collaborated with a Professor of Music to create a device to measure emotional response through skin conductance
Worked in a team with 2 computer science and 1 electrical engineering student
Wrote software to visualize and perform computations on data received from the hardware using Node.js, Python, and QT

LEADERSHIP AND TEACHING EXPERIENCE

Online Tutor: Oregon State University, Corvallis, OR.　　　　**February 2015 – June 2015**
Worked with online students returning to university with previous backgrounds in non-engineering fields
Tutored students in Discrete Math and Introduction to Algorithms coursework with proofs and problems in reductions
Visualized problems for students and helped them convert visuals into equations they could solve

Undergraduate Teaching Assistant: Oregon State University, Corvallis, OR.　　　　**September 2012 – March 2014**
Led 2 lab sessions for the Introduction to Computer Science series for a diverse group of students
Encouraged students to stay with computer science and engineering majors
Evaluated students objectively through grading assignments and tests
Communicated feedback about the labs and assignments and suggested solutions to the course professor

SKILLS
Quantitative: Data Analysis, Statistics, Regression
Programming Languages (years): C/C++ (4), Python (4), R (3), MATLAB (2), SQL (1), HTML (1), JavaScript (1)
Soft Skills: Teamwork, Quick Learner, Communication, Training/Teaching

RELEVANT COURSEWORK

Research methods in Human-Computer Interaction, Introduction to Human-Computer Interaction, Data-Driven Design, Computer Vision, Natural Language Processing, User-Interface Design, Machine Learning, Artificial Intelligence,

HONORS AND AWARDS
Ducilla Shepard Smith Award, Oregon State University.　　　　**2013 – 2015**
Rensselaer Polytechnic Institute Medalist.　　　　**2010**