Lilian de Greef

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SUMMARY

I am a PhD student at the University of Washington with **NSF** and **Microsoft Research PhD fellowships**, advised by Shwetak Patel in the **Ubiquitous Computing Lab**. Within the broad spectrum of ubiquitous computing, my interests include **computer vision, embedded systems, machine learning, HCI,** and **mHealth**. My research focuses on integrating HCI, ML, and computer vision to improve medical care with commodity hardware. Outcomes of my work are under active **commercial development** with the potential to change medical standards of care.

EDUCATION

University of Washington (2012 – present)
Ph.D. Student, Computer Science
Area: Ubiquitous Computing
Advisor: Dr. Shwetak Patel

Harvey Mudd College (2008 – 2012)
Bachelor of Science, Computer Science
☆ President Scholar (full tuition merit scholarship)
Graduated with distinction
GPA: 3.6/4.0

SKILLS

Programming: Python, C++, OpenCV, scikit-learn, Pandas, MXNet, Altair, Java, Arduino, SystemVerilog, Objective-C , C#, Scheme, Prolog

Software: SolidWorks, Autodesk Inventor, Photoshop

Hardware: 3D printing, laser cutting, fabrication for eTextiles, machining for metal and wood

Languages: English; conversational in Dutch, French; familiar with Chinese, German, Hungarian

PROJECT EXPERIENCE

Graduate Research, University of Washington   9/2012 – present
Advisor: Shwetak Patel
Primarily investigating how to use smartphone cameras to screen newborns for dangerous levels of jaundice, or yellowing of the skin, in close collaboration with UW Medical Center. Developed data collection procedures and software, applying computer vision to parse images and machine learning to estimate jaundice levels. Work thus far has resulted in two publications (one awarded as best paper nominee), two patents, and commercial development.

Research Intern, Microsoft Research Redmond   6/2018 – 9/2018
Manager: Jessica Lundin
Worked on improving CHAMP, a system to monitor infants with single ventricle heart disease. Communicated with medical partners at Children's Mercy Hospital, concretized technical goals, formulated methodology, wrangled and pre-processed data, developed prediction algorithms, and drafted the team's future work. Publication in progress.

Research Intern, Microsoft Research Redmond   6/2015 – 9/2015
Manager: Merrie Morris
Conceived and developed a prototype of TeleTourist, a system that uses video calls with strangers to share experiences for people with mobility restrictions. Interviewed individuals with mobility restrictions as formative work, designed system features, and implemented a subset of them for a prototype. Presented the work as a poster at CSCW '16 and resulted in a patent.

Research Science Intern, Amazon   6/2014 – 9/2014
Manager: Jim Curlander
Designed, developed, and evaluated eyes and head tracking based user interface elements for enhanced reality interfaces in fulfillment centers. Combined concepts from computer graphics with HCI Produced several prototypes, demonstrated the system in its intended environment. Resulted in a patent.

Microsoft Computer Science Clinic, Harvey Mudd College   9/2011 – 5/2012
Faculty Advisor: Z Sweedyk, Microsoft Liaison: Cati Boulanger
Designed and developed technology to motivate and assess rehabilitation for stroke patients affected in their upper extremities, using the Microsoft Surface in a team of four. Interviewed stroke patients and physical therapists, designed rehabilitative game, produced prototype, and ran user study with stroke patients. Published at CHI '12.