Lilian de Greef

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SUMMARY

I am a PhD student at the University of Washington with an **NSF fellowship** and **Microsoft Research PhD fellowship**, 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,** and **HCI**. My current research focuses on improving access to medical care, using low cost commodity hardware with trained image analysis and innovative user interface design.

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, Java, Arduino, SystemVerilog, Objective-C , C#, Scheme, Prolog, ROS

Software: SolidWorks, Autodesk Inventor, Photoshop, Autodesk 3DS Max

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

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

PROJECT EXPERIENCE

Research Intern, Microsoft Research Redmond 6/2018 – present
Manager: Jessica Lundin
Investigating AI to improve CHAMP, a system for monitoring infants with single ventricle heart disease during the critical months between their first two heart surgeries. I communicate with medical collaborators at Children's Mercy Hospital, formulate methodology, wrangle data, develop prediction algorithms, and draft the team's future work.

Graduate Research, University of Washington 9/2012 – present
Advisor: Shwetak Patel
Currently 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 6/2015 – 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 2016 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.