Peter Cheng

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http://petercheng.net
Software Development Engineer, Amazon Lab126

Education

M.S. Computer Science, UC Berkeley (2012-2013)

- GPA 3.889, High Honors

Management of Technology Certificate, Haas School of Business (2012)

- Completed 9 credits of MBA classes

B.S. Electrical Engineering and Computer Science, UC Berkeley (2009-2012)

- GPA 3.835, High Honors

Work Experience

Amazon Lab126: Advanced Concepts (2014-present)

- Design and prototype user interaction concepts for future Amazon products
- Pitch and provide software demos to Amazon executives in biweekly concept reviews
- 11 patents pending for interaction concepts and designs

Amazon Lab126: Emerging Technologies (2013-2014)

- Architected software for and drove an international computer vision data collection operation spanning thousands of participants and hundreds of locations
- Created, evaluated, and tuned machine learning models for device motion gestures
- Developed metrics, software frameworks, and testing procedures to quantify accuracy and ease of use for a multitude of gestures, head-tracking controls, and 3d interfaces

UC Berkeley Student Affairs IT: Lead Desktop Engineer (2011-2012)

- Hired and led a team to provide Tier 3 support for over a thousand employees
- Scripted and deployed patches to maintain a secure enterprise environment

Arista Networks: Software Development Intern (2011)

- Implemented the DHCP relaying module in Arista Extensible OS
- Maintained legacy-compatible packet handling and command-line interfaces

Research

Video and Image Processing Lab: Dr. Avideh Zakhor (2011 - 2013)

- Generated textured 3d models of indoor areas using a backpack-mounted imaging system consisting of cameras, lasers, and inertial sensors
- Wrote a program that efficiently processed tens of thousands of images while texturing thousands of surfaces in parallel
- Integrated detectors for windows and lights in order to generate interior energy models

Vision Sciences Lab: Dr. Christine Wildsoet (2011)

- Analyzed data from eye-tracking devices to study effect of sunlight on myopia

Publications

Journal of Selected Topics in Signal Processing (2014)

- Fast, Automated, Scalable Generation of Textured 3D Models of Indoor Environments

SPIE Computational Imaging (2013/2014)

- Texture mapping 3D models of indoor environments with noisy camera poses

Technical Skills

Projects: http://www.petercheng.net/projects.html
Languages: Java/Android, Python, C++, Matlab