Eric Lee Turner

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EDUCATION

University of California - Berkeley
Ph.D. in Electrical Engineering and Computer Sciences — May 2015
GPA: 4.00/4.00

University of California - Berkeley
M.S. in Electrical Engineering and Computer Sciences — May 2013
GPA: 4.00/4.00

Carnegie Mellon University
B.S. in Electrical and Computer Engineering — May 2011
QPA: 3.91/4.00 - Dean's List
Minors in Physics, Computer Science

RESEARCH EXPERIENCE

Video and Image Processing Lab - U.C. Berkeley — 08/2011 - May 2015
Ph.D. Graduate Student
3D and 2D surface reconstruction algorithms for architectural modeling
System hardware design and assembly

Spiral Project - Carnegie Mellon — 08/2010 - 05/2011
Honors Research Undergraduate
Analysis of efficiency and error for Spiral's implementation of Synthetic Aperture Radar

Spiral Project - Carnegie Mellon — 05/2009 - 08/2009
Summer Research Undergraduate
Implementation and analysis of search techniques for Spiral's code optimization engine

Robotics Institute - Carnegie Mellon — 09/2008 - 12/2008
Research Assistant
Design of user interface for LiDAR export from robotic systems

WORK EXPERIENCE

Indoor Reality, Inc. — 09/2015 - Present
Chief Technical Officer (CTO)
Principal Investigator on multiple grants. Technology lead in developing hardware and software used for indoor building modeling

Signetron, Inc. — 07/2015 - Present
Software Architect
Developed algorithms and software for indoor modeling and automatic building energy audits

EECS Department - UC Berkeley — 01/2015 - 05/2015
Graduate Student Instructor
Taught discussion sections, held office hours, graded homeworks/exams

@Maps — 08/2014 - 12/2014
Principal Engineer
Developed hardware systems and surface reconstruction software for building modeling

Speir Technologies — 01/2013 - 01/2014
Software Development Consultant
Developed prototype demo application and 3D modeling algorithms

MIT Lincoln Laboratory — 05/2011 - 08/2011
Summer Intern - Group 104: Intelligence and Decision Theory
Developed algorithms for creation of synthetic test data for SAR CCD track-finding

ECE Department - CMU — 01/2011 - 05/2011
Teaching Assistant - Course 18-391: Noisy Signal Processing
Wrote homework reference solutions, taught weekly office hours

Qualcomm — 05/2010 - 08/2010

Software Summer Intern - QCT Modem Integration Team
Developed/automated methodology for optimizing and removing redundancies in client specs of processor builds

Flatirons Solutions 05/2008 - 08/2008
Summer Intern
Developed flight path modeling application for FAA

COMPUTER SKILLS

Programming Languages: Java, C/C++, BASH, Python, SML, Basic, NASM, x86, Perl, JavaScript
Markup Languages: HTML, LaTeX
Software: Matlab, Mathematica, Maple, Unity, Autodesk, Visual Studio
Frameworks: Eigen, OpenCV, OpenGL, Qt, Android, Spring, Processing, XStream

AWARDS

Awarded Best Student Paper - GRAPP 2014 01/2014
9th International Joint Conference on Computer Vision, Imaging, and Computer Graphics Theory and Applications
Awarded NSDEF Fellowship 09/2013 - 05/2016
Presented at CMU Meeting of the Minds 05/2011
Won First Place Lockheed Martin ECE Undergraduate Project
Won Third Place CIT Honors Research Poster Competiton

PUBLICATIONS

Automatic Indoor 3D Surface Reconstruction with Segmented Building and Object Elements, Fifth Joint 3DV Conference 10/2015

3D Modeling of Interior Building Environments and Objects from Noisy Sensor Suites, Ph.D. Thesis, Department of Electrical Engineering and Computer Sciences, University of California Berkeley 2015

Multistory Floor Plan Generation and Room Labeling of Building Interiors from Laser Range Data, Communications in Computer and Information Science 2014

Fast, Automated, Scalable Generation of Textured 3D Models of Indoor Environments, Journal of Selected Topics in Signal Processing 08/2014

Image-Based Position of Mobile Devices in Indoor Environments, Multimodal Location Estimation of Video and Images 2014

Floor Plan Generation and Room Labeling of Indoor Environments from Laser Range Data, GRAPP 2014 01/2014

Reduced-Complexity Data Acquisition System for Image Based Localization in Indoor Environments, IPIN 2013 10/2013

Image Based Localization in Indoor Environments, International Conference on Computing for Geospatial Research and Applications 07/2013

Watertight Planar Surface Meshing of Indoor Point-Clouds with Voxel Carving, Third Joint 3DV Conference 06/2013

Watertight Floor Plans Generated From Laser Range Data, Master's Thesis 05/2013

Inserted Simulated Tracks into SAR CCD Imagery, Society for Modeling & Simulation Internation (SCS) 2013 Autumn Simulation Multi-Conference (AutumnSim'12) 10/2012

Watertight As-Built Architectural Floor Plans Generated from Laser Range Data, 3DIMPVT 10/2012

Sharp Geometry Reconstruction of Building Facades Using Range Data, ICIP 2012 09/2012

Local Interpolation-based Polar Format SAR: Algorithm, Hardware Implementation and Design Automation, Japan Society for the Promotion of Science 06/2012

Polar Format Synthetic Aperture Radar in Energy Efficient Application-Specific Logic-in-Memory, ICASSP 2012 05/2012

Energy Efficient Application-Specific Logic-in-Memory for Interpolation in Synthetic Aperture Radar, High Performance Embedded COmputing (HPEC) 09/2011