Vincent Kee

vincentkee.wordpress.com • vkee@mit.edu • Phone: (310) 528 - 8831

Education

Massachusetts Institute of Technology (MIT) **Cambridge, MA**
Candidate for Bachelor of Science in Electrical Engineering and Computer Science *June 2016*
Relevant Coursework: Robotics: Science and Systems I, Software Studio, Software Construction, Algorithms, Signals and Systems, Circuits and Electronics, Probabilistic Systems Analysis, Artificial Intelligence, Linear Algebra
GPA: 4.8/5.0

Work Experience

Aerospace Controls Lab, MIT Laboratory for Information and Decision Systems (LIDS) **Cambridge, MA**
Undergraduate Researcher *January 2015 - Present*

- Developing path planning algorithms for navigating a car through a pedestrian rich environment
- Developed software for competition where each team was provided a quadrotor with a camera to provide visual feedback for their sensorless iRobot Create tasked with navigating through a stochastic environment
- Designed a ROS program integrating RAVEN Vicon system data and generating visualizations with Vispy

Aerial Robotics Group, Aurora Flight Sciences **Manassas, VA**
Electrical Engineering and Computer Science Intern *June - August 2014*

- Developed path planning algorithms for scanning areas with UAVs along with workflow and software application
- Revamped flight data display application to maximize area available to display data
- Conducted two demos of mission planning tool and presented work to audience of over 50 company engineers

Distributed Robotics Lab, MIT Computer Science and Artificial Intelligence Lab (CSAIL) **Cambridge, MA**
Undergraduate Researcher *September - December 2013*

- Designed robot components to be created by planar fabrication techniques and origami-style folding
- Developed a graphical user interface to allow users to create robot assemblies with components from part library

MIT-SUTD International Design Centre, Singapore University of Technology and Design (SUTD) **Singapore**
Undergraduate Researcher *July - August 2013*

- Designed and fabricated a nested reconfiguration modular robotics system capable of rearranging its own modules (intra-reconfiguration) and combining with other systems to form more complex systems (inter-reconfiguration)
- Demonstrated intra-reconfiguration into all seven one-sided tetrominoes with the hinged tetromino prototype

CELEST Neuromorphics Lab, Boston University **Boston, MA**
Research Intern *July - August 2011*

- Developed optic-flow detecting filters and navigational algorithms for autonomous robots
- Presented paper and poster to Boston University Integrated Circuits and Systems group and approximately fifty people at a Boston University public poster session

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Technical Skills

Computer Skills: *Proficient:* Java, Python *Familiar:* JavaScript, MATLAB, C++, C, Robot Operating System (ROS), Node.js

Mechanical Engineering: ASME Y14.5, Solidworks, CNC Mill, CNC Router, Conventional Mill, Lathe, 3D Printing

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Awards

2nd Place in MIT Mobile Autonomous Systems Laboratory Robotics Competition **January 2014**

- Designed, manufactured, and programmed a fully autonomous robot utilizing computer vision and ultrasonic sensor feedback for navigation in one month as part of a five person team

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Publications

Kee, V., Rojas, N., Elara, M. R., & Sosa, R. (2014, July). Hinged-Tetro: A self-reconfigurable module for nested reconfiguration. In Advanced Intelligent Mechatronics (AIM), 2014 IEEE/ASME International Conference on (pp. 1539-1546). IEEE.