Kartik Mohta

kartikmohta@gmail.com

+1-215-821-7023

Education

Years	Degree	Institute
2012 – now	Ph.D. in Electrical and Systems Engineering	University of Pennsylvania
2010 – 2011	M.S.E. in Robotics	University of Pennsylvania
2004 – 2008	B.Tech. in Electrical Engineering	IIT Bombay

Achievements

- **Silver Medallist** at the 35$^{\text{th}}$ International Physics Olympiad (IPhO 2004) held in South Korea.
- **Institute Person of the Year (Technical Activities)** for the years 2005–06 and 2006–07 at IIT Bombay.
- **All India Rank 108** among around 180,000 students in IIT-JEE 2004.
- **All India Rank 4** in the National Science Olympiad 2004.
- Was among the **National Top** 1% in the National Standard Examination in Physics held in 2003-04.

Research Experience

- **Micro Aerial Vehicles** *June 2010 – now*

  I have worked on the implementation of vision, state estimation and control algorithms for small multirotor vehicles at *Prof. Vijay Kumar's* lab at the University of Pennsylvania. I was part of the Penn team involved in the DARPA Fast Lightweight Autonomy (FLA) program where we demonstrated high speed navigation in indoor and outdoor cluttered environments with small aerial robots. At the lab, I have also worked with teams of aerial robots and implemented a framework that lets a single operator control a team for 8–10 robots with very low cognitive load.

- **Memory Subsystem in System-on-Chips** *August 2007 – April 2008*

  The aim of the project was to implement a cache coherence protocol for *MemSim,* a multi-processor memory subsystem simulator being developed at IIT Bombay. I designed a protocol and worked on its sample implementation. This project was done under the supervision of *Prof. Madhav P. Desai.*

- **Interference of Light using Lasers and Ophthalmic Lenses** *December 2005 – December 2006*

  We studied the interference patterns due to reflected light from the front and back surfaces of ophthalmic lenses. We got various patterns depending on the type and the power of the lens. This method can be used to characterise the lenses, study the surfaces of the lenses and also detect the imperfections in them. This was done under *Dr. Rajesh Khaparde* at *Homi Bhabha Centre for Science Education.*

Work Experience

- **Insilica Semiconductors** *July 2008 – October 2009*

  At Insilica, I have worked on a wide range of projects such as programming a VLIW architecture based DSP in a dye-sublimation printer, UI development for Digital Photo Frames (DPF) and parsing of online RSS/Atom feeds from photo-sharing sites to get slide shows of user's online photos on the DPF.

- **GE Healthcare (Internship)** *May 2007 – July 2007*

  During my internship at GE Healthcare (Bangalore) I worked on designing a Serial Peripheral Interface (SPI) on a FPGA in their ECG machines to replace their proprietary interface.

Computer and Electronics Skills

- **Programming Languages:** C/C++, Python, Java
- **Packages:** ROS, OpenCV, MATLAB, Mathematica, Eagle (PCB Layout)
- **Micro-controllers:** Atmel AVR, Microchip PIC, ARM Cortex-M