

OTKRIST GUPTA

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Education

Massachusetts Institute of Technology – Ph.D. Candidate from MIT Media Lab (September 2014 - Present)

- Coursework – Computational Photography, Algorithms and Social Networks
- Research Assistantship focusing on novel imaging techniques using deep neural networks
- Awarded *Masters of Science in Media Arts and Sciences* from MIT Media Lab in August 2012

Indian Institute of Technology Delhi – B. Tech in Comp. Science and Engineering Rank #1, 9.6/10.0 (2009)

- Coursework (selected) – Data structures, Analysis and Design of Algorithms, Programming Languages
- Awarded **President's Gold Medal** for highest academic achievement in IIT among all graduating students

Professional Experience

Google – Software Engineer May 2013 - August 2014

- Developed new speech infrastructure for Google 'now' team to improve the quality of voice responses
- Developed google now actions such as "What's on my Chromecast?" featured in **Google I/O 2014**

LinkedIn – Software Engineer June 2012- May 2013

- Architect and owner of recruiter *typeahead* service to provide ultrafast searches over millions of member names
- Worked in a four people team to develop *CheckIn* app for sourcing millions of job applicants all over the country
- Built a notifications and alerts platform using *Hadoop* to store and retrieve information on a cluster

Tower Research Capital LLC - Infrastructure Developer 2009-2010

- Developed servers (in C++) for trading and market data acquisition on LSE, NYSE Euronext and other exchanges
- Designed and developed UI (Django and MySQL) to administer trader risk limits and positions
- Developed a library of scripts to track positions, check database, send alerts, and debug server messages

Virtual Reality Applications Research Team (VIRART), University of Nottingham 2007

- Member of "Virtual Klub" project team, aimed towards developing software aids to impart music education
- Developed a 3D interactive UI in Java to teach children music. Performed *user studies* to make it more affective

Academic Projects

Designing Neural Network Architectures using Reinforcement Learning Methods 2016-present

- Working on automating the process of *hyper-parameter* selection while training neural networks
- Developed techniques using reinforcement learning to select optimal neural network topology – (ICLR 2017)

Imaging Algorithms for Facial Expression Recognition 2014-2016

- Developed new algorithms for classification of face videos using deep convolutional nets and auto-encoders
- Determination of physiological signals such as heart rate using thermal imaging – (CVPR 2016)

Recovering 3D shape Around a Corner using Ultra -Fast Time-of-Flight Imaging 2010-2012

- Gave the mathematical proof of existence and uniqueness of solution for around the corner 3D shape problem
- Developed an iterative fixed point algorithm for around the corner 3D imaging using time of arrival data of photons
- Co-invented back projection based algorithm for looking around the corners in 3D (**patent submitted**)
- Publication in 2 esteemed journals - Nature Communication (2012) and Optics Express (2012)

Extra-Curricular Activities

- Semi-Finalist in MIT 100K (founding member *Convexic* – job matching for companies and users, now *BeanSprock*)
- Bronze Level member at MIT Ballroom Dance Team (inter collegiate - Latin and Standard dance styles)

Scholastic Achievements and Awards

- Awarded Rajiv Bambawale, B.N. Bhardawaj, Raman Subramaniam awards for academic excellence in IIT
- Secured percentile of 99.4 in CAT out of 2,50,000, and accepted into **IIM** Ahmedabad and Bangalore (2009)