

CURRICULUM VITAE – GAURAV MAHAJAN

PERSONAL INFORMATION

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EDUCATION

Ph.D in Computer Science and Engineering 2017 - Now
University of California, San Diego (US)

Integrated MS in Mathematics and Computing 2008 - 2013
Indian Institute of Technology, Delhi (India)

EMPLOYMENT HISTORY

Graduate Research Assistant University of California, San Diego 2017 - Now

- Working on *Non-convex Optimization* with Assistant Professor Sicun Gao to investigate the loss landscape of neural networks with non-linear activations and improve convergence properties of gradient descent algorithm.
- Working on *Program Synthesis for Safe Hybrid Systems* with Assistant Professor Sicun Gao and Assistant Professor Nadia Polikarpova to synthesize safe control for hybrid systems with non-linear dynamics on continuous real domain.

Software Engineer Microsoft, Seattle 2014 - 2017

- Participated in shipping 3 major releases : GA, Private Preview and Beta3 refresh for PowerApps
- Implemented cross platform authentication stack supporting Windows, Android, iOS and Web
- Implemented architecture to ensure parity for apis which could be asynchronous or synchronous

Software Engineer Epic Systems, Madison 2013 - 2014

- Improved document recommendation to help customers meet Meaningful Use requirements
- Appointed point person for technical problems related to Patient Instructions module

Summer Internee Ecole Normale Supérieure, Cachan 2012

- Selected as part of culture exchange program at ENS to work as summer internee
- Worked on finding probability measures with bounded errors on unfolding of various Petri Nets

AWARDS

MHRD Scholarship, awarded by Government of India for academic excellence at IIT Delhi 2012
Yahoo! HackU, Winner of 24 hour hack marathon held at IIT Delhi 2011
IITD Semester Merit Award, awarded for being among top 7% of students in IIT Delhi 2008
CBSE Scholarship, awarded for securing State Rank 14 and All India Rank 377 in AIEEE 2008
Rank 5, Regional Mathematics Olympiad sponsored by National Board of Higher Mathematics 2006

SELECTED ACADEMIC PROJECTS

Banach-Tarski Paradox 2013

- Discussed paradoxes from algebraic point of view in an expository article and relationship between Congruence by Dissection and Equidecomposability
- Discussed proof of Banach-Tarski Paradox using Hausdorff's Paradox and proof by absorption

Social Entertainment Website : The Toonatoes 2011

- Developed a social website which converts a facebook status and consequent comments to a comic strip
- Winning entry in Yahoo! HackU University Hack Day organised by Yahoo R&D

Mobile Door Opening System 2010

- Designed an interactive system to control a door remotely after reviewing the picture of visitor
- Programmed an Arduino based Bluetooth server to communicate with the phone installed on the door