

Computer enthusiast with over three years of experience in building large scale software systems.

EDUCATION

- **University of California, Santa Barbara** (Fall 2015 - current)
PhD Candidate, Computer Science
Geometric Algorithms, GPA : 3.98/4
Advisor : *Subhash Suri*
- **University of Waterloo, Canada** (Fall 2013 - 2015)
Master of Mathematics, Computer Science
Algorithms and Complexity, GPA : 93.2%
Thesis: Width properties of control-flow graphs and applications.
- **Indian Institute of Technology, Varanasi, India** (2006 - 2010)
Bachelors in Computer Science
CGPA : 8.69/10

TECH ARSENAL

- **Programming languages** C++(Proficient), C (Good), Perl, Python (Good), shell-scripts (Good), php
- **Operating systems/Tools** Linux (Ubuntu), GDB (Proficient), version control (git, svn, cvs), awk, sed, etc

WORK EXPERIENCE

- **Graduate Technical Intern, Intel Corporation**, Santa Clara, CA (Summers 2016)
Geometric Algorithms for Layout Processing.
- **Google Summer of Code, Open Graph Drawing Framework** (Summers 2014)
Implemented algorithms for computing treewidth of undirected graphs.
- **Senior Software Developer, Mentor Graphics**, India (2010 - Aug 2013)
Algorithmic solutions for Mentor's next generation emulation platform.
- **Google Summer of Code, ScummVM** (Summers 2010)
Wrote a game engine for testing ScummVM subsystems.

PUBLICATIONS

- Computing Shortest Paths in the Plane with Removable Obstacles
Pankaj K Agarwal, **Neeraj Kumar**, Stavros Sintos and Subhash Suri. (In Submission)
- Shortest paths in the plane with Violations.
John Hersberger, **Neeraj Kumar** and Subhash Suri at European Symposium of Algorithms, (ESA) 2017, Vienna, Austria

- Counting Convex k -gons in an Arrangement of Line Segments.
Martin Fink, **Neeraj Kumar** and Subhash Suri at 28th Canadian Conference on Computational Geometry (CCCG'16), Vancouver, Canada.
- SiPTA: Signal Processing for Trace-based Anomaly Detection.
MM Zeinali, MA Salem, **N Kumar**, G Cutulenco and S Fischmeister, *EMSOFT '14*.

SELECT GRADUATE COURSEWORK

- Computational Geometry
- Graph-theoretic Algorithms
- Foundations of Data Science
- Advanced Data Mining and Machine Learning

OTHER PROJECTS

- A neural network based system to identify traffic signs, achieved 99.2% on german traffic database.
- For an advanced operating system course, we performed a holistic analysis of shared library performance on NUMA architectures.
- Practical algorithms for analyzing worst-case execution time of programs.

MISCELLANEOUS

- **Scholarships and Awards**
 - Outstanding Teaching Assistant (UCSB),
 - Lead Teaching Assistant, Computer Science (UCSB), 2017-18.
 - Graduate Entrance Scholarship (UWaterloo),
 - CBSE Merit Scholarship (India)
- **Teaching assistant** for CS341 (Algorithms, UWaterloo), CS 130A, 130B (Algorithms and Data Structures, UCSB).
- **Languages** English (fluent), Hindi(fluent)