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WORK

- **Apple Inc.** Cupertino, CA
SWE, Maps Traffic Feb 2017 - present
 - Designed and A-B tested new traffic algorithms for next-generation Apple Maps (now visible in California). Saw 1% increase in adoption over Google Maps. Ramped up coverage to entire US and other countries
 - Improved ETA accuracy for Maps by 6% in leading markets for Apple and >10% in regions with sparse data
 - Created new evaluation strategies that pin-pointed areas of deficient traffic forecasting. These strategies are being used extensively to curate good travel experiences at several locations from San Francisco to Paris
 - Co-supervised two interns and helped them achieve their goals by arranging regular check-ins, assisting in planning and code reviews. Both will be joining as full-time employees
- **Intelligent Transportation Systems Lab** Brisbane, Australia
Occupational Trainee Dec 2013 - June 2015
 - Secured funding for 1.5 years from Australian Strategic Air Traffic Management Group (ASTRA) by developing first-of-its-kind reliability and occupancy prediction system for buses, trains and ferries
 - Verified need for smart-card schemes by identifying passenger segments using machine learning
 - Quantified need for on-schedule performance and revenue-frequency trade-off by quantifying elasticities
 - Scholarship to 7 PhD programs at globally leading universities; presented findings in Japan and Rotterdam
- **MTC-Chennai and CMRL** Chennai, India
Technical Consultant April 2013-July 2013
 - Increased revenue from city buses by redefining fare slabs to promote short-distance travel. Provided insights using data from electronic ticketing machines.
 - Identified ways of increasing ridership for the Chennai Metro. Determined feeder-bus system as a key under-developed factor and determined optimal routes with best returns on investment.
- **Intelligent Transportation Systems Lab** Chennai, India
Research Assistant Jan 2013-July 2015
 - Shipped India's first in-house Real-time Information System using data from buses and traffic cameras
 - Conducted outreach programs to create awareness and gather input from different project stakeholders
 - Trained lab staff and researchers about system use and optimization

EDUCATION

- **Massachusetts Institute of Technology** Boston, USA
MS: Interdisciplinary Transportation Engineering August 2015 - June 2017
 - Full financial assistance with a Research Assistant position at the Human Mobility and Networks Lab
 - Social Chair of the Transportation Student Group- managed club finances, organized social excursions, open house for incoming graduate students and coordinated student activity in the department
 - Developed a novel mechanistic modeling framework that effectively generates urban mobility patterns with resolution of ten minutes and hundred of meters in the Greater Boston Area. Work published in [PNAS](#)
 - Part of the US Squash Ladder. Played for the MIT squash club in the 4.5 league
 - Only student in class to complete the Masters program in 3 semesters
- **Indian Institute of Technology Madras** Chennai, India
B.Tech. & M.Tech.: Civil Engineering, Infrastructure Planning and management July 2010 - May 2015
 - Forged research ties between IIT-M and the University of Queensland through an MoU
 - Received scholarship of Rs.60,000 for a semester exchange program with Concordia University in Montreal.
 - Raised \$10,000 to create a campus-wide social network. Worked as the Co-founder and CEO for over a year. Lead a team of 5 engineers and got over 1,000 students to sign up
 - Gold medalist at State level inter-college sport festival, Silver medalist in Swimming Medley Schroeter, Bronze medalist in 50m Free-style swimming relay Schroeter, 10th Position at MARG Chennai 10km race
 - Campus Ambassador for CollegeFeed (acquired by AfterCollege)- connected students to employers and helped 10 students secure jobs/internships
 - Member of the executive team of the Civil Engineering Association. Organized department festival for 2 years
 - TA for a graduate course on Infrastructure Planning and Management- lead case studies and reviewed term papers

SELECT PROJECTS

- **Sidepact** Startup Cohort San Francisco, CA
 - Lead ideation, need-finding and product delivery sessions in a group of 30 engineers working at leading tech companies including Apple, Google, Facebook and Stanford
 - Worked on incubating new companies by leading small groups into whiteboarding sessions, networking dinners and one-on-ones with leading Venture Capitalists
- **Winner at the Disrupting Mobility Hackathon** Media Lab, MIT
 - Identified situations in which autonomous vehicles could be best leveraged to provide services.
 - Designed smart sensor network that automated rescue notifications, mobilized robots and AVs for immediate relief.
- **Autonomous Coffee Delivery Robot** Media Lab, MIT
 - In order to reduce friction in human-robot interaction we built a coffee delivery robot.
 - Delivered more than 50 cups to customers within 2 hours and received valuable customer feedback; rated most insightful term project at MIT Media Lab
- **Apartment Choice Survey** Concordia University, Montreal
 - Delivered insights to Student Housing on how to select sites and plans for developing new dorms
 - Organized focus groups, designed fractional factorial survey and performed logit modeling to identify factors important to college students
- **Changing Land Use Pattern of Chennai** IIT Madras, Chennai
 - Explored novel cost-efficient ways of learning about urban development in data-poor Indian cities
 - Performed 60-year time series analysis of Landsat images to track development and land use patterns
 - Used PCA, Supervized and unsupervised learning to evaluate past and future impact of increase in sea level

PUBLICATIONS

- **TimeGeo: modeling urban mobility without travel surveys** PNAS
Shan Jiang, Yingxiang Yang, Siddharth Gupta, Daniele Veneziano, Shounak Athavale, and Marta C. Gonzalez
 - A novel mechanistic modeling framework that effectively generates urban mobility patterns with resolution of ten minutes and hundred of meters
 - Replaces expensive and tedious surveys in lieu of ubiquitous call detail records
- **Data Mining and Modeling for Smart Transit Management** CASPT 2015, Rotterdam
Gupta, S., Hickman, M.D., Srinivasan, K.K.
 - Analysis of real-time and pseudo real time smart card data for optimizing service performance and modeling traveler behavior to introduce new schemes that help to capture niche travel groups
- **Evaluation and Selection of Operational Parameters for Travel Time prediction for Real-time Information Systems** IEEJ
Gupta, S., Prakash, A.R. and Srinivasan, K.K.
 - Developed fusion techniques for information produced in real time, using forecasting models and those stored historically to increase confidence in real-time information systems
- **Development and Evaluation of Advanced Traveller Information Systems for Indian Cities A Case Study in Chennai City** IEEJ
Srinivasan, K.K., Ramadurai, G., Prakash, A.R., Gupta, S., Sivanandan, Vanajakshi, L.D.
 - Evaluates and records the experience of developing the first real time information system for heterogeneous traffic flow. Also identifies likely challenges and proposes solutions for scaling to multiple cities

PROGRAMMING SKILLS

- Python, Java, Scala, Git, Spark, Hadoop, Matlab, R, CouchDB, NodeJS, MySQL, C++
- Javascript, HTML, CSS, Bootstrap, PHP, Android Studio
- IoT technologies, Raspberry Pi and Arduino programming

COURSE WORK

- Machine Learning- Gradient descent, Logistic Regression, Neural networks, SVMs, Kernels
- Analyzing Choice- regression models, logit, probit and nested logit modeling and their implementation
- Data Analysis- Organizing an analysis- exploration to modeling and inference using R
- Data Manipulation at Scale: Systems and Algorithms- Map Reduce, NoSQL, MongoDB
- Network Analysis- Shortest path, Minimum Cost, Maximum Flow problems- theory and implementation
- Probability, Optimization, Linear Algebra, Calculus, Differential Equations
- Transportation demand and economics- Theory of the firm, Cost function, Pricing, Uncertainty, Revenue Management
- Media Lab Courses: City Science, Sensor Technologies for interactive environment
- Data Structures and Algorithms, Microeconomics