ANKOOR BHAGAT

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SUMMARY

A talented, passionate and self motivated data scientist. M.S, Ph.D. in Engineering. Proficient in using Python, R and MATLAB

KEYWORDS

Programming: Python (Pandas, NumPy, sciKit-learn), R, MATLAB, SQL (Beginner), D3.js (Beginner)

Applied Machine Learning, Regression, Bayesian Data Analysis, Dimensionality Reduction, Optimization, Transportation Algorithms, Engineering Economics, Transportation Systems Analysis, Traffic Simulation, Emission and Air Dispersion Modeling

EXPERIENCE

Intern, Sarakki Associates Inc., Santa Ana, (Sept 2014 - Present)

- Determined the revenue generating potential of Real-time Traffic Archival Data Management System project (Contract from University of Southern California)

Graduate Student Researcher\Teaching Assistant, University of California, Irvine, (Jan 2009 - June 2014)

- Coded R and Matlab scripts to estimate the temporal risk of accidents on I-710 and I-110 freeways by analyzing 3 years of Los Angeles County freeway vehicular accident data
- Developed network augmentation algorithm to reduce Origin Destination (OD) matrix estimation time, coded and implemented MATLAB scripts to process data and test calculations
- Estimated vehicular emissions from microscopic traffic simulation trajectories (60+ Gigabytes) for off-peak freight delivery scenarios
- Coded MATLAB scripts for processing dispersion model output (8700+ files) to analyze spatial and temporal impacts of air pollution from off-peak freight deliveries and found air pollutant concentrations increased due to atmospheric boundary layer effects
- Instructed undergraduate students in Economics, Statistics, Linear Regression, Linear Programming and Non-linear Optimization courses

Assistant Transportation Engineer, LSA Associates, Riverside, (Mar 2008 - Sept 2008)

- Prepared Traffic Impact Analysis (TIA) reports, Environmental Impact Report (EIR) and performed intersection level of service (LOS) analysis

Teaching Assistant, University of California, Irvine, (April 2007 - Dec 2007)

- Taught Computer Aided Design, Highway Alignment and Design, and Engineering Mechanics courses to undergraduate students

EDUCATION

Doctor of Philosophy in Civil Engineering — June 2014
University of California, Irvine — GPA 3.8

Master of Science in Civil Engineering — December 2007
University of California, Irvine — GPA 3.6

Bachelor of Engineering in Civil Engineering — June 2003
Nagpur University, India — First Division

PROJECTS

Network Augmentation

- Designed algorithm to reduce Origin Destination (OD) matrix estimation time. Coded MATLAB scripts to process data, perform calculations and test convergence of estimated matrices

Environmental and Health Impacts of PierPASS Program

- Simulated PierPASS scenarios to collect trajectory data. Coded MATLAB scripts to process simulation trajectory data, estimate vehicular emissions, process dispersion model input and output data. Used ArcGIS and R (ggmap) to plot maps

Freeway Accident Data Analysis

- Analyzed 3 years of Los Angeles County freeway vehicular accident data. Coded R and MATLAB scripts to calculate and normalize accident rates, and test hypothesis

MISCELLANEOUS

- Peer reviewed papers in transportation research (Complete list available upon request)
- Twice Semi-Finalist in The Data Incubator's Data Science Fellowship program
- Delivered numerous lectures to students, conference presentations to researchers and industry professionals
- Supervised numerous graduate students' M.S. theses and mentored several successful undergraduate students conducting research
- 16^{th} Annual UCTC Student Conference Poster Committee Chair, UC Irvine, 2010