Gang Xie

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Education

Ph.D. Candidate Transportation and Highway Engineering   2022 – present
Department of Civil and Environment Engineering in University of Nevada, Las Vegas
M.S. Transportation and Highway Engineering   8/2007
Department of Civil Engineering in University of Nevada, Las Vegas   GPA:3.96/4.0
Thesis Title: Evaluation of the Impacts of Emergency Vehicle Signal Preemption
Courses: Traffic Engineering (A) Transportation Planning (A) Transportation Network Analysis (A)
Operation Research Applied in Civil Engineering (A) GIS Applied in Civil Engineering (A)
Research Method (A) Experimental Design (A-) Multivariate Statistics (A)
M.S. Transportation Engineering   4/2002
Department of Transportation in Northern JiaoTong University, China   GPA: 3.6/4.0
Thesis Title: Train Schedule Automatically Generation and Capacity Analysis of Dedicated-Passenger
                    Railway
B.S. Transportation Engineering   7/1998
Department of Transportation in Northern JiaoTong University, China   GPA: 3.5/4.0
Research topic: Safety Study of Operation of High Speed and Regular Speed Trains on Beijing-Shanghai
                    High Speed Railway

Research & Industry Working Experience

Senior Project Engineer, Regional Transportation Commission (RTC) of Southern Nevada,
Freeway and Arterial System of Transportation (FAST)   Sept 2009 – present
- Migrate Signal Performance Metrics (SPM) system, and develop enhancements and smart phone app;
- ITS Design Build Project Management;
- Design and develop freeway and arterial system performance evaluation system and decision making system;
- Smart work zone utilizes variance ITS devices;
- Review design plan submittals from local agencies that are for projects funded by the RTC;
- Review traffic impact analysis and development agreements of local agencies;
- Provide data, information and assistance to internal and external customers as required.

Assistant Transportation Engineer,   Iteris, Inc.   Oct 2007 – Sept 2009
- Developed Freeway Flow Analysis software and analyzed the data from freeway detectors to identify the recurring congestions on freeways;
- Assisted in design of ITS, Signal, and Lighting for the I-15 Design Build (North) Project;
- Assisted in temporary ITS & Communication design and implementation, testing and troubleshooting for the I-15 Design Build (North) Project;
- Existing signals survey and Transit Signal Priority design for Omnitrans Bus Rapid Transit (CA);
- Preliminary ATMS design (proposal) for the I-15 CORridor Expansion (CORE) project (UDOT);
- Quantities calculation and ramp meter design for the 2100 North Corridor Project (UDOT).

RA & TA, Transportation Research Center, UNLV   Jan 2006 – Aug 2007
- Analyzed signal event log data to derive signal preemption pattern including distribution, duration and frequency; Derived signal phase duration and cycle length from signal phase log data; Investigated signal transition strategies by comparing cycle lengths;
- Derived travel time and speed for roadways in Las Vegas by processing Paratransit GPS data using ArcGIS and deriving vehicle route; Investigated signal preemption impact on traffic using before and after statistical analysis;
- Modeled and evaluated the MAX transit signal priority system using VISSIM simulation software;

- Teaching Assistant for GIS Application in Civil Engineer class;
- Design temporary traffic control plans and traffic detour plans;
- Traffic count and speeds collection for SMART work zone using Autoscope and Nu-Metrics sensors.

Research Assistant & Project Manager, China Academy of Railway Sciences, China 2003-2005
- Designed and developed Train Operation Simulation System (TOSS) to provide a design and evaluation platform for high speed railway and metro light rail operation plans;
- Customized TOSS for Guangzhou Metro Line 3 project to design subway trains overtake plans, analyzed the capacity of subway and stations, and evaluated the system performance by simulation;
- Primary designer and developer of Beijing-Shanghai High Speed Railway Integrated Traffic Control Simulation System, responsibilities for train operation plan, rolling stock utilization plan and crew scheduling plan;
- Developed a graphical approach to identify maintenance time window for Dedicated Passenger Railroad.

Assistant Engineer, Xiangfan North Railway Station, China 1998-1999
- Worked as shunter, hump operator, signalman;
- Assisted in making wagon dispatch plan for the marshing station.

Awards

Best Project of the Year, ITE Traffic Engineering Council	2024
Champion of Data Innovation Challenge of USDOT	2014
Best Project of the Year, ITE TSM&O Council	2012
Engineer of the Year, ITE Nevada Chapter	2012
Superstar of the Quarter, RTC-FAST	4th quarter of 2010
Employee of the Month of Iteris, Inc.	Feb 2008
Excellent employee of China Academy of Railway Science	2005
Outstanding graduate student of Northern Jiaotong University	2001
Excellent graduate student leader of Northern Jiaotong University	2000
Undergraduate scholarships issued by Northern Jiaotong University	1996

Publications & Presentations

- **Xie, G**., J. Rodriguez, L. Valenzuela, Y. Chen, and M. Kaseko. Symmetric Signal Timing Method to Achieve Four-Way Full Green Band Progression on Grid Roadway Network. ITE Journal, Vol. 94, No. 8, 2024, pp. 32–40.
- **Gang Xie**. Advanced Features of Automated Traffic Signal Performance Measure System. Presentation at Fall Transportation Conference. Las Vegas, Nevada 2019
- Day C, Taylor M, Mackey J, Clayton R, Patel S, **Xie G**, et al. Implementation of Automated Traffic Signal Performance Measures. ITE Journal. 2016
- **Gang Xie**, Brian Hoeft. Freeway and Arterial System of Transportation Dashboard: Web-Based Freeway and Arterial Performance Measurement System. TRB 2012
- **Xie, G**., Brian Hoeft, and Glenn G, Ramp Meters Evaluation: Using ITS Archived Data, Journal of Transportation Engineering (ASCE), 2011
- **Xie, G**., Brian H, Benefit – Cost Analysis for Urban Freeway Traffic Management Strategies, Institute of Transportation Engineers 2011 Annual Meeting
- Hualiang Teng, Mohamed S. Kaseko, **Gang Xie** and Valerian Kwigizile,, Evaluation of Impacts of Emergency Vehicle Signal Preemption, Transportation Research Board, Jan 2008, Washington D.C.
- **Xie, G.**, Zhen, J., Processing Railway Train-set Scheduling; presented at China-Korea-Japan Railway Research Technical Conference, Tokyo, Japan, 2005.
- Zhen J., **Xie, G.**, Zhao, P. A Meta-heuristics Algorithm for Locomotive Crew Scheduling; presented at China-Korea-Japan Railway Research Technical Conference, Seoul, Korea, 2004.
- **Xie, G.**, Zhang, X., Analysis and Evaluation High Speed Railway in China by Using AHP, Journal of Railway Transportation and Economics, Nov. 2001, Beijing, China.