KRISHNA MURTHY GURUMURTHY

E: gkmurthy10@utexas.edu L: linkedin.com/in/krishna-murthy W: gkmurthy10.github.io

EDUCATION

The University of Texas at Austin, USA *expected* August 2020
Doctor of Philosophy in Civil Engineering (*Transportation Engineering*) GPA: 3.87 / 4.00

The University of Texas at Austin, USA *expected* May 2020
Master of Science in Statistics and Data Sciences GPA: 3.94 / 4.00

The University of Texas at Austin, USA December 2017
Master of Science in Civil Engineering (*Transportation Engineering*) GPA: 3.81 / 4.00
Thesis Perceptions and Preferences of Autonomous and Shared Autonomous Vehicles: A Focus on Dynamic Ride-Sharing

National Institute of Technology Karnataka (NITK), India May 2016
Bachelor of Technology in Civil Engineering GPA: 8.92 / 10.00

EXPERIENCE

Graduate Research Assistant Supervisor: Dr. Kara Kockelman Fall 2016 – Present
Responsible for an ANL project focusing on transportation planning/forecasting for autonomous vehicles *UT Austin*

Research Aide – Technical Supervisor: Dr. Joshua Auld Summer 2018
Tasked with developing algorithms for the control of shared-automated vehicle fleets and implementing the control & optimization algorithms in ANL's POLARIS *Argonne National Laboratory*

Graduate Teaching Assistant Course Instructor: Dr. Kara Kockelman Spring '19
Responsible for students' performance in designing, implementing, collecting and modeling survey data focused on transportation engineering and policy. *UT Austin*

Graduate Teaching Assistant Course Instructor: Dr. Kara Kockelman & Ms. Heidi Ross* Spring '17, '18*& '19
Responsible for students' performance, grading, lab lectures (on MicroStation and GEOPAK) and final design-project outcome in a capstone course for transportation engineering *UT Austin*

Project Research Intern Supervisors: Drs. Tom V Mathew & Gowri Asaithambi Spring 2016 – Summer 2016
Tasked with devising incorporating traffic models into existing simulation software *IIT Bombay*

Summer Research Intern Supervisor: Dr. Tom V Mathew Summer 2015
Tasked with devising and programming microscopic traffic model and simulation software in MATLAB *IIT Bombay*

PUBLICATIONS

- **Gurumurthy, K.M.**, Kockelman, K. and Simoni, M.D. 2018. Benefits & Costs of Ride-Sharing in Shared Automated Vehicles Across Austin, Texas: Opportunities for Congestion Pricing. *Transportation Research Record.*
- Simoni, Michele D., Kockelman, K., **Gurumurthy, K.M.** and Bischoff, J. 2018. Congestion Pricing in a World of Self-Driving Vehicles: An Analysis of Different Strategies in Alternative Future Scenarios. *Transportation Research Part C: Emerging Technologies* 98: 167-185.
- **Gurumurthy, K.M.** and Kockelman, K. 2018. Analyzing the Dynamic Ride-Sharing Potential for Shared Autonomous Vehicle Fleets using Cellphone Data from Orlando, Florida. *Computers, Environment and Urban Systems* 71: 177-185.

PAPERS & PRESENTATIONS (selected)

- Invited Speaker, at the SESYNC Pursuit: People, Land, Water and Fish - Integrating Social and Environmental Models in the Chesapeake Watershed held in Annapolis, Maryland, presentation titled "Modeling Emerging Modes and Advanced Policies in MATSim", 21-22 February, 2019.
- Mahmoud, J., Auld, J., and **Gurumurthy, K.M.** 2018. Intra-Household Fully Automated Vehicles Assignment Problem: Model Development and Case Study. Presented at the 98th Annual Meeting of the Transportation Research Board.
- **Gurumurthy, K.M.** and Kockelman, K. 2018. Modeling Americans' Autonomous Vehicle Preferences: A Focus on Dynamic Ride-Sharing, Privacy & Long-Distance Mode Choices. Presented at the 98th Annual Meeting of the Transportation Research Board and under review for publication in *Technological Forecasting and Social Change*.

- Selected Speaker, at the TRB Workshop on Doctoral Research in Transportation Modeling and Travel Behavior held in Washington, D.C., presentation titled "A System of Shared Autonomous Vehicles for Chicago: Anticipating Impacts at Multiple Stages of Adoption", 13 January, 2019.

BOOK CHAPTERS & TECHNICAL REPORTS

- Co-author of Chapter 18 in "Smart Transport for Cities & Nations: The Rise of Self-Driving & Connected Vehicles". 2018. Kara Kockelman and Stephen Boyles (Eds). Published by CreateSpace on Amazon.com, August 2018. ISBN-10:0692121501, ISBN-13: 978-0692121504.
- Kockleman, K., Boyles, S., Sturgeon, P., Claudel, C., ... **Gurumurthy, K.M.**, He, D., ... and Yarmohammadisatri, S. "Phase 2 - Bringing Smart Transport to Texans: Ensuring the Benefits of a Connected and Autonomous Transport System in Texas - Final Report". Technical Report FHWA/TX-18/0-6838-3, TxDOT, CTR, UT Austin, TX, July 2018.
- Kockelman, K., Loftus-Otway, L., Stewart, D., Nichols, A., Wagner, W., Boyles, S., Levin, M., Liu, J., Perrine, K., Kilgore, S., and **Gurumurthy, K.M.** "Best Practices for Modifying Transportation Design, Planning, and Project Evaluation in Texas." Technical Report 0-6847-P1, TxDOT, CTR, UT Austin, TX, March 2017.

SOFTWARE SKILLS

MATLAB • TransCAD • Java • Microsoft Office Suite • R • ArcGIS • C# • C++ • Python

SELECT RESEARCH PROJECTS

Implementing Shared Autonomous Vehicles in POLARIS and Assessing the Impact of Dynamic Ride-Sharing in Chicago Fall 2018 – Present

Supervisor: Dr. Kara Kockelman (Sponsored by Argonne National Laboratory) *UT Austin*

POLARIS, an agent-based discrete event simulator developed by the Argonne National Laboratory, is being enhanced to simulate shared autonomous vehicles with dynamic ride-sharing capabilities. Policies such as geofencing the service, pre-determined pick-up and drop-off spots, and congestion pricing are being analyzed to understand the future of mobility.

CO-CURRICULARS & VOLUNTEERING

Eno Fellow, Eno Center for Transportation Class of 2019

Core Team Member, UT Austin Traffic Bowl Team 2017 & 2019

Marketing Coordinator, UT Apartment's Tenant Advisory Board Spring 2019 - Present

Friend, TRB's ADB40 Committee on Transportation Demand Forecasting Spring 2018 - Present

Member & Ex-Officer, Women's Transportation Seminars, UT Austin Student Chapter Fall 2017 – Present

Member & Past President, Institute of Transportation Engineers, UT Austin Student Chapter Fall 2016 – Present

Member & Ex-Officer, Intelligent Transportation Society of America, UT Austin Student Chapter Fall 2016 – Present

Mentor, Graduates Linked with Undergraduates in Engineering (GLUE) Fall 2017

Lead Event Organizer, Texas Student Leadership Summit Fall 2017

PEER REVIEWER - JOURNALS

Transportation Research – Part A, Part B, Part C, Part D • *Computers, Environment and Urban Systems* • *Transport Policy* • *Transportation* • *Transportation Research Record: Journal of the Transportation Research Board*

AWARDS & ACHIEVEMENTS

- Awarded the Conference of Minority Transportation Officials (COMTO) scholarship to attend the 2019 Eno Future Leaders Development Conference in Washington, D.C.
- Awarded the Graduate Research Award by the Airport Cooperative Research Program for the period 2018-19
- Received the Outstanding Student Award at TexITE Spring Meeting in 2018.
- Awarded the CAS-ITE (2017), ITS Texas scholarships (2017, 2018), and the Texas district ITE fellowship (2017).
- Part of the UT Austin Traffic Bowl Team that won the Texas district championship in Spring 2017 and came second in the International championships in Summer 2017.