Natalia Zuniga-Garcia

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Qualifications

- Interested in the analysis and evaluation of emerging mobility services with a strong statistics and data analysis background.
- Excellent written and verbal communication skills with experience in presentations for technical and non-technical individuals.
- A fast and passionate learner, solution-oriented, with excellent collaboration, interpersonal, and leadership skills.

Education

- **The University of Texas at Austin** *Ph.D. in Civil Engineering | Transportation Engineering* (GPA: 4.00)   May 2020 (*Expected*)
- **The University of Texas at Austin** *M.Sc. in Statistics and Data Sciences* (GPA: 3.81)   May 2018
- **The University of Texas at Austin** *M.Sc. in Civil Engineering | Infrastructure Materials* (GPA: 3.71)   May 2017
- **University of Costa Rica** *B.Sc. and Licentiate in Civil Engineering* (GPA: 8.46/10)   December 2012

Professional Experience

- **Graduate Research Assistant** *The University of Texas at Austin* (*Prof.: Randy B. Machemehl, Jorge A. Prozzi*)   2015 - Present
  - Performed data analysis and statistical modeling for several transportation research projects (*refer to the next section*).
  - Authored and co-authored more than 20 research reports, journal publications, and conference proceedings.
- **Teaching Assistant** *The University of Texas at Austin - Cockrell School of Engineering*   2016 - Present
  - Led weekly office hours and grading: 1) Public Transportation Engineering and 2) Pavement Design and Performance.
- **Research Engineer** *University of Costa Rica - Sustainable Urban Development Program* (*ProDUS*)   2013 - 2014
  - Collaborated in the preparation of research proposals and public bidding / Authored and co-authored technical reports.

Notable Research Projects

- **Bond Corridor Performance Analysis**   Jun. 2017 - Present
  - Developing a Shiny on-line application (using R) for the evaluation of multimodal performance metrics at corridor level.
  - Processing and mining of Intelligent Transportation Systems (ITS) data from multiple sources, e.g. GTFS, APC, Bluetooth.
- **Transit in the Context of New Transportation Paradigms**   Jan. 2019 - Aug. 2019
  - Cleaning and mining of data from more than 3 million dockless bikes and scooters trips in Austin, Texas.
  - Using spatial statistical models to evaluate the impact of dockless scooters on public transportation demand.
- **First-Mile-Last-Mile Collector-Distributor System using Shared Autonomous Vehicles (SAVs)**   Jan. 2019 - Aug. 2019
  - Using agent-based simulation (MATSim) to evaluate operations impacts of using SAVs as a FMLM transit solution.
- **Work Zones Traffic Analysis for Freeway Maintenance Projects** (Sponsored by TxDOT)   Jan. 2017 - Aug. 2019
  - Using microsimulation software (TSIS-CORSIM) and ITS information to asses the traffic impact of work-zones in Texas.

Selected Publications

1. Gurumurthy, K.M., K.M. Kockelman, and **N. Zuniga-Garcia**. First-Mile-Last-Mile Collector-Distributor System using Shared Autonomous Mobility. Under review for publication in *Transportation Research Record*

2. Zuniga-Garcia, **N.**, M. Tec, J.G. Scott, N. Ruiz-Juri, and R.B. Machemehl. (2020). Evaluation of Ride-Sourcing Search Frictions and Driver Productivity: A Spatial Denoising Approach. *Transportation Research Part C: Emerging Technologies*, 110, 346–367.

3. Zuniga-Garcia, **N.**, H.W. Ross, and R.B. Machemehl. (2018). Multimodal Level of Service Methodologies: Evaluation of the Multimodal Performance of Arterial Corridors. *Transportation Research Record*, 2672(15), 142–154.

Skills

Languages English (*Full professional proficiency*) | Spanish (*Native proficiency*) | Portuguese (*Elementary proficiency*)
Programming Languages *Advanced proficiency*: R, *Intermediate*: Python | MATLAB, *Basic*: SQL | C++
Software Packages TSIS-CORSIM | SPSS | SAS | MS Office | LaTeX | ArcGIS | AutoCAD

Honors and Awards

- **2019-2020 Graduate Research Award** Airport Cooperative Research Program, Transportation Research Board (TRB)   2019
- **2019 Study in Intelligent Transportation Systems (ITS) Scholarship** Intelligent Transportation Society (ITS) Texas   2019
- **2019 Mary Kate Collins Memorial Endowed Presidential Scholarship in Civil Engineering**, UT-Austin   2019
- **WTS Diane Woodend Jones Leadership Legacy Scholarship** Women's Transportation Seminar (WTS) International   2018

Extracurricular Activities

Peer Reviewer of Journal Articles: **Transportation Research Board (TRB)** Committees: AFD90, ABJ70, ABJ35   2017 - Present
Mentor: **Graduates Linked with Undergraduates in Engineering** Women in Engineering Program (WEP)   2017 - 2019
President: **Women's Transportation Seminar (WTS)** UT-Austin Student Chapter   2017 - 2018