George Gunter

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Education

Vanderbilt University May 2024 (Expected)
PhD in Civil Engineering (GPA: 3.88)

University of Illinois at Urbana–Champaign May 2019
B.S. in Civil Engineering (GPA 3.60)
Minor in Mathematics
Minor in Computer Science

Research Interests

– Traffic control and estimation
– Cyber-physical systems
– Autonomous vehicles

Journal Publications

1. **G. Gunter**, R. Stern, W. Barbour, R. Bhadani, M. Bunting, Y. Wang, D. Gloudemans, R. Bhadani, C. Janssen, B. Piccoli, B. Piccoli, B. Seibold, J. Sprinkle, D. Work. "Are commercially implemented adaptive cruise control systems string stable?" *IEEE Transactions on Intelligent Transportation Systems, 2020.*

2. Y Wang, **G. Gunter**, M Nice, DB Work . "Online parameter estimation methods for adaptive cruise control systems" *IEEE Transactions on Intelligent Vehicles, November, 2020.*

3. **G. Gunter**, R. Stern, C. Janssen, D. Work. "Model based string stability of adaptive cruise control systems using field data" *IEEE Transactions on Intelligent Vehicles, November, 2019.*

Conference Submissions and Presentations

1. "Challenges of Microsimulation Calibration with Traffic Waves using Aggregate Measurements" *Accepted for presentation at the Transportation Research Board Annual Meeting*, Virtual, Jan 2021.

2. "Estimating adaptive cruise control model parameters from on-board radar units" *Accepted for presentation at the Transportation Research Board Annual Meeting*, Washington DC, Jan 12-15, 2020.

3. "WiP Abstract: String stability of commercial adaptive cruise control vehicles" *Accepted to the International Conference on Cyber-Physical Systems*, 2019.

4. "Phantom jams and adaptive cruise control vehicles: experimental insights" *Accepted to the IEEE International Conference on Models and Technologies for Intelligent Transportation Systems*, 2019.

5. "Impacts of Adaptive Cruise Control Vehicles on Traffic Stability" *Accepted for presentation at the American Society of Civil Engineers International Conference on Transportation and Development*, Alexandria, VA June 9-12, 2019.

6. "Phantom Traffic Jams from Adaptive Cruise Controlled Vehicles" *Vanderbilt VUSE REU Poster Presentation*, Vanderbilt University, 2018.

7. "Impacts of Autonomous Vehicles on Traffic" *Presented at the Transportation Leadership Academy*, Nashville Metro, 2019.

Honors and Awards

NSF Graduate Research Fellowship, National Science Foundation 2020

One of 20 Civil Engineers to receive an NSF Graduate Research Fellowship in 2020.

University Graduate Fellowship, Vanderbilt University 2019
Recipient of a Vanderbilt Graduate Student Fellowship.

Pao Chung Chen Graduate Fellowship, Vanderbilt University 2019
Recipient of the 2019/20 Pao Chung Chen Graduate Fellowship.

Langelier Scholar, University of Illinois 2017
Recipient of 2017/18 Langelier Scholarship, awarded for excellence in Environmental Engineering.

Bailey Scholar, University of Illinois 2017
Recipient of 2017/18 Bailey Scholarship, awarded for excellence in Leadership.

Professional Experience

Graduate Researcher, Vanderbilt University, Institute for Software Integrated Systems June 2018 - May 2019

Undergraduate Researcher, Vanderbilt University, Institute for Software Integrated Systems June 2018 - May 2019

Undergraduate Researcher, University of Arizona CAT Vehicle REU June 2017 - Aug 2017

Undergraduate Researcher, University of Illinois at Urbana-Champaign Aug 2014 - Dec 2018

Research Experience

Traffic Engineering, Vanderbilt University, Institute for Software Integrated Systems June 2018 to Present
Conducting research in the lab of Professor Daniel Work on the impacts of autonomous vehicles on traffic control and estimation.

Autonomous Vehicle Research, University of Arizona June 2017 to August 2017
Worked at the CAT Vehicle REU on using autonomous vehicles for traffic pattern detection and estimation.

Leadership

Mentoring Undergraduate Research Assistants Summer 2019 to Present

Engineers Without Borders (EWB) Project Lead Aug 2014 to May 2017

Global Water Stewardship Design Competition Spring 2016 to May 2017

Engineers for a Sustainable World UIUC President/Founder Sep 2016 to May 2018