Austin Valentine Angulo, Ph.D.

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1 PERSONAL INFORMATION

1.1 Education

Ph.D., Civil and Environmental Engineering   2018-2021
University of Virginia, Charlottesville, VA
Advisor: Brian L. Smith
Thesis: Pedestrian Safety: Virtual Reality Simulator Development and Validation for Analysis of
   Alternative Safety Technologies
Access: https://doi.org/10.18130/g1z0-ab81

M.S., Civil and Environmental Engineering   2016-2018
University of Virginia, Charlottesville, VA
Advisor: Brian L. Smith
Thesis: User Recognition at Mid-Block Crossings via Connected Vehicle Technology: An
   Evaluation of Driver Awareness via Eye Tracking and Stated Preference Data
Access: https://doi.org/10.18130/V3KH0DZ3Q

B.S., Civil and Environmental Engineering   2011-2015
University of Virginia, Charlottesville, VA

1.2 Work Experience

Assistant Professor | 2022-Present
SUNY University at Buffalo – Buffalo, NY
- CIE 475/576 – Geometric Design of Highways – Instructor
- CIE 500 – Sustainability in Transportation – Instructor

Postdoctoral Research Associate | 2021-2022
University of Virginia – Charlottesville, VA

Graduate Research Assistant | 2016-2021
University of Virginia - Charlottesville, VA
- Co-Founder of the Omni-Reality and Cognition Lab (https://engineering.virginia.edu/omni-reality-and-cognition-lab)
- Dwight David Eisenhower Transportation Fellowship Graduate Research Fellow at FHWA Turner Fairbank Highway Research Center

Co-Instructor – CE 2010 | 2018-2020
University of Virginia - Charlottesville, VA

Traffic Engineer | 2015-2016

Dr. Austin Valentine Angulo

Iteris Inc. - Sterling, VA

Traffic Engineering Intern | 2014-2015
Charlottesville City Hall - Charlottesville, VA

Research Assistant | 2012-2014
University of Virginia - Charlottesville, VA

Highway Linesman | 2010-2012
Denville Line Painting Inc. - Denville, NJ

1.3 Fellowships, Honors, and Awards

UVA Civil Engineering Graduate Award for Superior Teaching	2021
Graduate Assistants in Areas of National Need Teaching Fellowship	2019-2020
FHWA Dwight D. Eisenhower Transportation Grant for Research Fellowship	2016-2019
FHWA DDETF Innovative Doctoral Research Showcase	2019
NSF Research Coordination Network - Mainstreet21 Pipeline Grant	2019
UVA Research Innovation Award Program - Seed Grant	2018
VDOT SmarterRoads Hackathon Grand Prize	2018
University of Virginia Engineering Research Symposium – 2nd Place Podium	2018
Research Experience for Undergraduates (University of Virginia)	2013
Green Initiative Funding Tomorrow Grant (University of Virginia)	2013

2 RESEARCH ACTIVITIES

2.1 Publications

Angulo, A.V., Robartes, E., Guo, X., Chen, T. D., Heydarian, A., & Smith, B. L. (2023). Demonstration of virtual reality simulation as a tool for understanding and evaluating pedestrian safety and perception at midblock crossings. *Transportation Research Interdisciplinary Perspectives*, *20*, 100844. https://doi.org/10.1016/j.trip.2023.100844

Guo, X., **Angulo, A.V.**, Tavakoli, A., Robartes, E., Chen, T. D., & Heydarian, A. (2023). Rethinking infrastructure design: Evaluating pedestrians and VRUs' psychophysiological and behavioral responses to different roadway designs. *Scientific Reports*, *13*(1), Article 1. https://doi.org/10.1038/s41598-023-31041-9

Guo, X., Tavakoli, A., **Angulo, A.V.**, Robartes, E., Chen, T. D., & Heydarian, A. (2023). Psycho-physiological measures on a bicycle simulator in immersive virtual environments: How protected/curbside bike lanes may improve perceived safety. *Transportation Research Part F: Traffic Psychology and Behaviour*, *92*, 317–336. https://doi.org/10.1016/j.trf.2022.11.015

Saglio, A., Robartes, E., Chen, T. D., Heydarian, A., Guo, X., & **Angulo, A.V.** (2023). Examining Socioeconomic and Physiological Factors Affecting Preferences for Cycling Infrastructure Using Virtual Reality Experimentation. *Transportation Research Record*,

03611981231168834. https://doi.org/10.1177/03611981231168834

Guo, X., **Angulo, A.V.**, Robartes, E., Chen, T. D., & Heydarian, A. (2022). ORCLSim: A System Architecture for Studying Bicyclist and Pedestrian Physiological Behavior through Immersive Virtual Environments. *Journal of Advanced Transportation*, *2022*, e2750369. https://doi.org/10.1155/2022/2750369

Guo, X., Robartes, E. M., **Angulo, A.V.,** Chen, T. D., & Heydarian, A. (2021). Benchmarking the Use of Immersive Virtual Bike Simulators for Understanding Cyclist Behaviors. *Proceedings 2021 ASCE I3CE*. https://doi.org/10.31224/osf.io/mrxgh

Angulo, A.V., & Smith, B. L. (2021). Evaluation of driver performance with a prototype cyber physical mid-block crossing advanced warning system. *Journal of Safety Research*, *79*, 237–245. https://doi.org/10.1016/j.jsr.2021.09.004

Angulo, A.V., Guo, X., Chen, T., Heydarian, A., Smith, B. *In Prep*
Evaluating current and future midblock crossing safety treatments using virtual reality simulation

2.2 Presentations

2.2.1 Contributed Talks

de Cardenas, C., **Angulo, A.V.**, Saglio, A., Gering, B., Barnes, J., Cian, L., Mondschein, A., Chen, T.D. 2023. Variations in attention, heart rate, and preferences while walking on an urban streets in open or closed to vehicles. Ux+Design Annual Meeting, Medford, MA.

Angulo, A.V., Robartes, E., Guo, X., Chen, T., Heydarian, A., Smith, B. 2022. Virtual reality vs. real-world: A validation of pedestrian safety at midblock crossings. ASCE ICTD 2022 Annual Meeting, Seattle, Washington.

Angulo, A.V., Robartes, E., Guo, X., Chen, T., Heydarian, A., Smith, B. 2022. Evaluating current and future mid-block crossing safety treatments using virtual reality simulation. ASCE ICTD 2022 Annual Meeting, Seattle, Washington.

Angulo, A.V., Robartes, E., Guo, X., Chen, T., Heydarian, A., Smith, B. 2022. Validation of virtual reality simulator with real-world observations for pedestrian safety at midblock crossings. Transportation Research Board 2022 Annual Meeting, Washington, DC.

Angulo, A.V., Robartes, E., Guo, X., Chen, T., Heydarian, A. 2021. Development of virtual reality simulators to assess perceived safety of vulnerable road users. Transportation Research Board 2021 Annual Meeting, Washington, DC.

Guo, X., **Angulo, A.V.**, Robartes, E., Chen, T., Heydarian, A. 2021. Assessing and improving cyclists' situational awareness and safety through physiological sensing and augmented reality technology. Transportation Research Board 2021 Annual Meeting, Washington, DC.

Angulo, A.V., Robartes, E., Chen, T., Heydarian, A. 2020. The use of virtual reality simulators in bicycle and pedestrian human subject testing: A synthesis. Transportation Research Board 2020 Annual Meeting, Washington, DC.

Angulo, A.V., Robartes, E., Chen, T., Heydarian, A. 2019. Development of virtual reality simulators to assess perceived safety of vulnerable road users. Transportation Research Board 2019 Annual Meeting, Washington, DC.

Angulo, A.V., Smith, B. 2019. User recognition at mid-block crossings via connected vehicle technology: An evaluation of driver awareness via eye tracking and stated preference data. Transportation Research Board 2019 Annual Meeting, Washington, DC. *Federal Highway Administration's Dwight D. Eisenhower Innovative Doctoral Research Showcase*

Angulo, A.V. 2019. Should DSRC and C-V2X Coexist? Debate. Transportation Research Board 2019 Annual Meeting, Washington, D.C.

Angulo, A.V. 2018. The Omni-Reality and Cognition Lab: An overview. Virginia Department of Transportation - Transportation Planning and Advisory Committee.

Angulo, A.V., Laffey, S., and Smith, B. 2018. User recognition at mid-block crossings via connected vehicle technology. Virginia Bicycle and Pedestrian Action Committee, Roanoke, VA

Angulo, A.V. and Laffey, S. 2017. User recognition at mid-block crossings via connected vehicle technology. ITS and VASITE, Richmond, VA.

2.2.2 Seminars

Angulo, A.V. 2023. Understanding transportation safety utilizing simulation methodologies. UB Human Factors and Ergonomics Society Student Chapter Seminar Series.

Angulo, A.V. 2022. Simulation Methodologies in Transportation. UB ITE Student Chapter Seminar Series, Buffalo, NY.

2.2.3 Posters

Angulo, A.V., Robartes, E., Guo, X., Chen, T., Heydarian, A., Smith, B. 2022. Evaluating current and future mid-block crossing safety treatments using virtual reality simulation. Transportation Research Board 2022 Annual Meeting, Washington, DC.

Angulo, A.V., Robartes, E., Chen, T., Heydarian, A. 2020. Virtual reality as a tool for understanding pedestrian and bicyclist perceptions and safety. UVA Engineering Systems and Environment Graduate Research Symposium 2020, Charlottesville, VA.

4 PROFESSIONAL SERVICE AND DEVELOPMENT

4.1 Professional Service
Scholarship Committee – UB CSE   2022-Present
NSF Engineering Research Visioning Alliance: Sustainable Transportation Networks - Participant   2022

Dr. Austin Valentine Angulo

Department Graduate Student Council – Representative – UVS ESE   2019-2021
VDOT Hackathon Guidelines Co-Author   2019

4.2 Outreach
Engineering Systems and Environment Graduate Recruitment   2017

4.3 Professional Development
Institute of Transportation Engineers Student Chapter   2019-2021
Teaching Science in Higher Education, University of Virginia   2018
Undergraduate Researcher, University of Virginia   2011-2015

4.4 Manuscript Reviewer
Transportation Research Interdisciplinary Perspectives
Transportation Research Part F: Traffic Psychology and Behavior
Journal of Intelligent Transportation Systems: Technology, Planning, and Operations
The IEEE Intelligent Transportation Systems Society Conference

4.5 Society Memberships
American Society of Civil Engineers
Transportation and Development Institute
Institute of Transportation Engineers
Theta Tau Professional Engineering Fraternity