

William W. Barbour

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EDUCATION

- Vanderbilt University (VU)** GPA: 3.90
- Ph.D. Civil and Environmental Engineering (May 2020, expected)
 - Research student at the Institute for Software Integrated Systems
- The University of Illinois at Urbana-Champaign (UIUC)** GPA: 3.66
- M.S. Civil Engineering, Sustainable and Resilient Infrastructure Systems (May 2017)
- The University of Tennessee, Knoxville (UTK)** GPA: 3.98
- B.S. Biosystems Engineering, with Honors (May 2015)
- Katholieke Universiteit Leuven, Belgium**
- Environmental Engineering study abroad program organized by Texas A&M University (Summer 2013)

EXPERIENCE

- Network Modeling and Analytics Intern, CSX Transportation** Summer 2016
- Led integration of GIS referencing with network simulation tools. Investigated the delay and predictability of freight train arrivals into terminals.
- Graduate Research Assistant, Institute for Software Integrated Systems, VU** 01/2018 - Present
- Developing next generation real-time freight rail movement planner using data-driven optimization.
 - Developing simulation tools for novel railroad signaling strategies possible with positive train control.
 - Implementing machine learning techniques to detect electric motor failure modes.
- Graduate Research Assistant, Civil and Environmental Engineering, UIUC** 06/2015 - 12/2017
- Developed machine learning models for prediction of estimated time of arrival (ETA) of freight trains, using historical data mining and real-time network traffic state information.
- Utilities Engineering Intern, Oak Ridge National Laboratory** Summer 2014
- Conducted engineering studies on utility infrastructure to support sustainable capital expansion.
- Undergraduate Research Assistant, Biosystems Engineering Lab, UTK** 09/2011 - 05/2015
- Designed and built specialized multi-sensor platforms for underwater and river-bank video mapping.
 - Conducted terrain impact studies of wheeled vehicles in cooperation with the US Army Corps of Engineers.
- Consultant, Hawaii Department of Land and Natural Resources** 04/2014 - 05/2014
- Instructor, UNHO 102: Humanity and the Environment (UTK)** Spring 2013
- Teaching Assistant, BSE 451: Electronic Systems** Spring 2015
- Teaching Assistant, HSP 195: Leadership Program** Summer 2013

HONORS AND AWARDS

- Dwight D. Eisenhower Transportation Fellowship, USDOT 2017 and 2018
- Student of the Year Award, Roadway Safety Institute 2016
- Invited Participant at ThinkChicago: Chicago Ideas Week 2016
- Civil and Environmental Engineering Graduate Fellowship, University of Illinois 2015-2016
- College of Agricultural Sciences and Natural Resources Outstanding Senior Award 2014
- Department of Biosystems Engineering and Soil Science Outstanding Senior Award 2014
- Tau Beta Pi Engineering Honor Society 2013-present
- University of Tennessee Chancellor's Honors Program 2011-2015
- University of Tennessee Haslam Scholar (one of 15 students annually) 2011