William W. Barbour

2121 Elliott Ave; Nashville, TN 37204
Website: https://barbourww.github.io
Email: william.w.barbour@vanderbilt.edu
Tel: 423 429 8078

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

Eno Leadership Development Fellow, Eno Center for Transportation	2018
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