Huan H. Ngo, E.I.T

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Education

The University of Memphis **Memphis, TN**

Doctor of Philosophy in Civil Engineering January 2019 – Present

The University of Memphis **Memphis, TN**

Bachelor of Science in Civil Engineering January 2017 – December 2018

- Concentration: Transportation Engineering, GPA: 3.8/4.0

Professional History

Transportation Department at The University of Memphis **Memphis, TN**

Research Assistant January 2017 – Present

Investigation on Wrong-way Prevention Technologies and Systems, *Sponsored by Tennessee Department of Transportation (TDOT)*, 2019 – Present

- Propose a selection of wrong-way prevention facility, evaluate and compare the alternatives based on life cycle cost analysis, and recommend a practical implementation of the facilities
- Inspect wrong-way driving crashes data in Tennessee to detect common characteristics

Dynamic Wireless Charging (DWC) Study, *Sponsored by FedEx Institute of Technology*, 2018 – Present

- Developed a black-box optimization model to determine the length and location of DWC facilities in a compact network for Battery Electric Vehicles, which minimizes the total system travel time and eliminates electric vehicle range anxiety, with a case study of Montgomery County, MD.
- Applied Radial Basis Function Interpolation method to solve the Bi-Level mathematical problem of locating DWC facilities because of the interdependent nature between the upper level of federal agency's decision making and the lower level of user equilibrium's route choice.

Transit Asset Management Plan, *Sponsored by Memphis Area Transit Authority (MATA)*, 2017 – 2018

- Initiated, composed, and finalized MATA's Asset Management Plan which includes a dashboard encapsulating the entire fleet's health and service, a technical report, and a board presentation.
- Designed a user interface module to input, keep track of assets, and automatically generate a 5-year asset rehabilitation plan by maximizing the entire fleet's normalized quality of service.

Optimal Public Transportation Investment Study, *Sponsored by Department of Civil Engineering*, 2017

- Created an integer linear programming model to strategically distribute resources to transit agencies in a multi-state area to enhance their services, with an explicit consideration of equity.

ARUP Vietnam **Ho Chi Minh City, Vietnam**

Structural Engineering Intern December 2017 – January 2018

- Performed modal analysis and calculated story deflection of a high rise externally braced building.
- Collaborated closely with the structure team to design post-tensioned concrete slab.
- Designed preliminary structural member cross sections of an exhibition house to satisfy deflection requirement under non-linear long-term cracked analysis. Analyzed internal force, determined reinforcement requirement for beams, and simulating the structure with a 3D Revit model.

Southeast Transportation Workforce Center **Memphis, TN**

Student Worker August 2017 – January 2018

- Created a career pathway for occupations in transportation by statistically analyzing common technical expertise, professional credentials, and software skill sets as requested by employers.
- Evaluated the transportation curriculum of several institutions to identify education gaps.

Publications and Proceedings

Ngo, H., Mishra, S., Kumar, A. (2019) A Bi-level Programming for Locating Dynamic Wireless Charing for Battery Electric Vehicles. *Transportation Research Part D: Transport and Environment* (submitted).

Mishra, S., **Ngo, H.**, Kumar, A. (2019) Dynamic Wireless Charing Infrastructure Planning for Electric Vehicles. Compendium of Papers in the 98th Annual Board Meeting of *Transportation Research Board*, National Research Council, Washington D.C.

Ngo, H., Shah, R., Mishra, S. (2018). Optimal Asset Management Strategies for Mixed Transit Fleet. *Transportation Research Part A: Policy and Practice*, 117, pp. 103-166. (**Impact Factor 5.3**)

Ngo, H., Shah, R., Mishra, S. (2018). Multicriteria Mixed Transit Fleet Resource Allocation. Compendium of Papers in 97th Annual Board Meeting of *Transportation Research Board*, Washington D.C.

Technical Expertise

- Software: TransCAD, AutoCAD Civil 3D, ArcGIS, Microsoft Suite, AutoCAD, Revit Structure, ETABS,
- Programming: Python, R Programming, MATLAB, GAMS IDE
- Familiar with: AASHTO Policy on Geometric Design of Highways and Streets, TDOT Roadway Design Guidelines, ACI 318-14 Concrete Building Code, and AISC 14th Steel Design Manual

Participations

- Participated in two consecutive EERI Seismic Design Competition 2018 and 2019.
- Presented at Transportation Research Board (TRB), 97th, 98th Annual Meeting in Washington, DC.
- Presented at Annual Student Research Forum, University of Memphis, 2018.
- Presented at Work in Progress Symposium, University of Memphis, 2017.

Honors and Awards

- Dean's List Academic Award Recipient, University of Memphis, from 2016 to 2018.
- Passed the Fundamental Engineering Exam, The State of Tennessee, 2017.
- ISEP Scholarship for Student Exchange Program, 2016
- Ranked first in the Vietnam University Entrance Exam and received a full 4-year scholarship, 2014
- First Prize in Physic Competition in Ho Chi Minh City, 2014

Affiliations

- Scheduler of the Institute of Transportation Engineer
- Student Member of Tau Beta Pi Organization
- Leader of the Student Recruitment Campaign team at Vietnam National University, 2015

References

Available upon request