Vishal Mandal

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CORE COMPETENCIES

Python, R, AutoCAD, MicroStation, Synchro, Microsoft Excel, Intelligent Transportation Systems, Traffic Safety

EDUCATION

University of Missouri-Columbia — Jan 2018 - Dec 2019

Master of Science, Civil Engineering (Focus: Transportation) *(GPA: 3.63/4)*

Jawaharlal Nehru Technological University Kakinada — Oct 2013 - May 2017

Bachelor of Technology, Mechanical Engineering *(GPA: 3.57/4, First Class with Distinction)*

WORK EXPERIENCE

HNTB Corporation, Arlington, VA — May 2019 – Present

Intern Engineer - ITS

- Intelligent Transportation Systems Design-CCTV Cameras, Dynamic Message Signs, AID, Fiber Optics, Detectors, Control Cabinets, Power Block Diagrams for ANC and I-95 Fred Ex Design-Build Projects.

University of Missouri, Columbia, MO — May 2018 – May 2019

Graduate Teaching/Research Assistant

- Deploy deep learning algorithms such as Mask-RCNN, Chainer, YOLO, etc. for intelligent transportation applications
- Using Python and OpenCV for image/video processing of traffic related operations and transportation data analysis
- Course Teaching Assistant: 1200 ENGINR Statics and Elementary Strength of Materials

Missouri Department of Transportation (MoDOT), Columbia, MO — Jan 2019 – May 2019

Traffic Technician

- Traffic safety study and crash analysis at signalized, non-signalized and at-grade intersections
- Crash study on the effectiveness of improved surface friction using Iron Mountain trap rock

Accenture, Bangalore, India — Jul 2017 - Sep 2017

Application Development Associate

- Underwent basic training on Java, SQL, HTML and Salesforce

Energy Efficiency Centre, FNCCI, Kathmandu, Nepal — May 2016 – July 2016

Intern

- Assisted in transportation energy efficiency and energy audit report writing of industrial facilities
- Underwent SAARC training on Energy Statistics for Nepal

PUBLICATIONS

- **Vishal Mandal**, Lan P. Uong, Peng Jin, Yaw Okyere Adu-Gyamfi, "Traffic Queue Monitoring with Mask region-based Convolutional Neural Network", *98th Annual Meeting of the Transportation Research Board, Washington DC, 2019.*
- **Vishal Mandal**, Lan Uong, Yaw Adu-Gyamfi "Automated Road Crack Detection Using Deep Convolutional Neural Networks", *IEEE Conference on Big Data, Seattle, USA, 2018.*
- Lan P. Uong, **Vishal Mandal**, Xiaofan Shu, Yaw Adu-Gyamfi, Mo Zhao, "Machine Learning Framework for Improving the Accuracy of Probe Speed Data", *Journal of Transportation Engineering, Part A, ASCE, 2019* (**Under Review**)
- Manjish Adhikari, **Vishal Mandal**, "Performance and Reliability Analysis of Mobile Robot Using Cara Fault Tree", *International Journal of Innovative Research on Science Engineering and Technology*, *2015.*

AWARD/ACHIEVEMENTS

- Nepal Aid Fund Scholarship Scheme awarded by the **Ministry of External Affairs, India** — Oct 2013 - May 2017
  (Award Value: US$ 24,500, Includes full tuition and stipend for 4 years of undergraduate study)

- Second best research poster award at the **Highway Safety and Traffic Blueprint Conference**, Columbia, MO — Sep 2018