

# Curriculum Vitae

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## Personal Information

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## Education

### **Master of Science in Transportation Planning and Operation**

**Granted: 10/2018**

*Technische Universität Berlin, Berlin, Germany*

Thesis: Der Einfluss von Infrastrukturmerkmalen sowie städtebaulicher Eigenschaften auf die Routenwahl von Fahrradfahrenden: Erhebung und statistische Auswertung

Focus in Transportation Modeling, Mobility Research, and Transit Planning and Operations

### **Professional Engineering License**

**Granted: 12/2015**

*North Carolina Board of Examiners for Engineers and Surveyors, Raleigh, NC, U.S.A.*

License Number 043211.

### **Bachelor of Science in Civil Engineering**

**Granted: 12/2010, magna cum laude**

*University of Maine, Orono, ME, U.S.A.*

Focus in Transportation Engineering and Environmental Engineering

### **Study Abroad**

**Duration: 09/2008 – 08/2009**

*Universität Stuttgart, Stuttgart, Germany*

Focus in Transportation Planning and Railroad Engineering

## High School Diploma

**Granted: 06/2006**

*Old Town High School, Old Town, ME, U.S.A.*

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## Professional & Work Experience

since 10/2018

### **Research Assistant**

*IVT, ETH Zürich, Zürich, Switzerland*

- Manage and work on research projects related to transport modeling and discrete choice modeling
- Develop new extensions to the modeling software MATSim
- Assist in teaching courses related to transport modeling and planning

06/2017 – 09/2018

### **Work-Study Student**

*Berliner Verkehrsbetriebe (BVG) A. ö. R., Berlin, Germany*

- Assisted in the coordination of teams from different departments within the BVG as well as with external contractors working on various tramway projects: passenger information systems, tramway construction, operation planning, long-term infrastructure plans, etc.
- Managed and checked data sets generated for the life cycle cost contract for the Flexity trams
- Created and developed presentations and other communication documents for various internal and external meetings, workshops, and events.
- Assisted in updating the official planning, operation, and infrastructure standards (Betriebskonzept)

08/2016–10/2016

### **Intern**

*Münchner Verkehrsgesellschaft, Stadtwerke München GmbH, München, Germany*

- Planned a bus line extension: gathered and analyzed field data, developed and presented the concept, created the time table, evaluated the concept using the transportation model VISUM
- Performed detailed analysis of and prepared visual and written summaries of passenger count data for the contracting authority, the City of Munich
- Designed new visualizations of passenger count data to answer specific questions
- Created visualizations of operative requirements for three existing bus stations as part of planning facility expansion

- Reviewed and summarized relevant research and projects to support ongoing education and innovation within the department and cooperation with local universities
- Shadowed coworkers during meetings on developing new public-private partnerships, corporate mobility management services, bike sharing programs, and mobility tools

06/2012–03/2016

**Rail Design Engineer II**

*HNTB Corporation, Raleigh, NC, U.S.A.*

- Designed track alignments using GeoPak
- Reviewed utility crossing applications for the North Carolina Railroad Company
- Observed and reported on construction progress on behalf of clients
- Prepared construction plans in Microstation
- Generated cross sections and calculated earthwork quantities using Microstation
- Prepared construction estimates

12/2011–05/2012

**Technical Support Engineer (Contractor)**

*Cisco Systems, employed via Manpower Group, Durham, NC, U.S.A.*

- Supported and trained international customers in installing, configuring, and using custom network management software
- Configured Linux CentOS servers for deployment in customer networks
- Troubleshoot Linux servers and network management software
- Tested software
- Wrote software and server configuration documentation

09/2011–11/2011

**Unemployed**

Unemployed as result of moving from Boston, MA, to Raleigh, NC

01/2011–08/2011

**Civil Engineer I**

*Transystems Corporation, Boston, MA, U.S.A.*

- Drafted stormwater treatment plans and details in AutoCAD Civil 3D
- Drafted roadway cross-sections, plans, and details in AutoCAD Civil 3D
- Designed stormwater treatment BMPs (Roadway)
- Performed basic stormwater analysis in Bentley PondPack 2008
- Performed SWPPP inspections and prepared reports
- Checked and edited plans for compliance with regulations, including regulations for both stormwater treatment design and bike, pedestrian, and multi-use path design
- Prepared cost estimates
- Prepared plan sets

06/2010 – 08/2010 **Intern**

*Milone & MacBroom, Inc., Freeport, ME, U.S.A.*

- Performed basic design work in AutoCAD Civil 3D/Land Desktop, including vertical highway alignments
- Designed basic stormwater treatment BMPs, performed initial stormwater analysis, adjusted grading
- Prepared permitting materials: researched permits, contacted government departments, organized documents

05/2007 – 08/2008 **Laboratory Assistant**

*University of Maine, Orono, ME, U.S.A.*

Micromechanics Lab, Department of Civil Engineering. I worked for Prof. Eric Landis.

- Developed testing methods and ran tests using Instron's FastTrack 8800 Servohydraulic Test System
- Performed initial analysis of data and helped evaluate whether further tests were needed
- Customized test system - designed a LVDT holder to allow more accurate measurements to be made
- Made and prepared specimens – improved a mold for making 4mm diameter concrete cylinders

10/2006 – 05/2007 **Laboratory Assistant**

*University of Maine, Orono, ME, U.S.A.*

Environmental Engineering Laboratories, Department of Civil Engineering. I worked for Prof. Jean MacRae and doctoral candidate Jennifer Weldon.

- Ran tests – performed substrate testing, determined bacterial growth with a spectrometer, counted cells using microscope
- Organized data, performed initial data analysis
- Prepared specimens – grew stock cultures, mixed solutions
- Prepared substrates – mixed solutions, ensured sterility

06/2005 – 08/2006 **Camp Counselor, Life Guard**

*Camp Natarawi, Abnaki Girl Scout Council (now Girl Scouts of Maine), Millinocket, ME, U.S.A.*

- Ensured safety and well-being of campers
- Planned and co-lead a 3-day backwoods canoe trip on the West Branch of the Penobscott River
- Taught water safety, canoeing, kayaking, swimming, and camping skills

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## Volunteer Experience

### 05/2014 – 10/2014 **Program Search Lead**

*Engineers Without Borders – Research Triangle Park Professional Chapter (EWB-RTP), Raleigh, NC, U.S.A.*

- Identified and invited individuals and groups who knew of communities in developing nations who could benefit from partnering with EWB-RTP on community/based infrastructure projects to meetings to present their proposals.
- Lead a search committee in developing evaluation and selection criteria and then applying these criteria to the proposed programs.
- Presented the findings of the committee to the general body to allow the general body to make an informed decision on which program to select
- Assisted the chosen community and their partnering NGO in preparing their New Program Application to EWB-USA
- Managed the preparation and submission of EWB-RTP's New Program application to EWB-USA
- Oversaw the transition of the EWB-RTP team to new leadership after the program was accepted

### 10/2009 – 12/2010 **Project Lead/Capstone Project Manager**

*Engineers Without Borders – University of Maine Chapter (EWB-UMaine), Orono, ME, U.S.A*

- Lead a team of professional and student engineers in bringing the project design to completion before the deadline
- Lead a team of professional and student engineers in organizing and executing an assessment trip to Honduras
- Coordinated and participated in the preparation the 525 Pre-Implementation Report, a 300-page design report, including design drawings, required for project approval
- Designed a PVC pipe gravity sewer system connecting 28 homes to the treatment system (septic tanks and leach field)
- Evaluated design inputs, researched and evaluated sludge disposal alternatives, guided the design of septic tanks, leach field
- Managed the project: defined goals and tasks, assigned tasks, created schedules, monitored progress, created cost estimates
- Ran meetings, facilitated teamwork, and coordinated work of design team, travel team, EWB-UM, client and in-country contacts

## Software Skills

Object-oriented Software Development	Java	working proficiency
	Git	basic proficiency
Data Analysis	Biogeme	working proficiency
	SPSS	basic proficiency
	R	working proficiency
	MAXQDA	basic proficiency
Transportation Modeling	MATSim	working proficiency
	VISUM	basic proficiency
Drafting, Mapping, & Graphics	Microstation (incl. GeoPak)	expert proficiency
	AutoCAD	expert proficiency
	Corel Draw	working proficiency
	QGIS	basic proficiency
Office Software	Microsoft Office Suite	advanced proficiency
Other	Linux CentOS	basic familiarity

## Language Skills

English	native proficiency
German	bilingual/professional proficiency
French	elementary proficiency