Nagacharan Teja Tangirala

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SUMMARY

I am looking for an exciting development role with C++ or Rust. I am an Urban Mobility researcher with 8 years of Research and Development experience in studying electric mobility through high-performance simulations built in C++ and Rust.

EXPERIENCE

Research Associate

Technical University of Munich (TUM) **May 2021 - May 2024, Munich, Germany**

- Led a team of three researchers in a simulation-based study of cargo fleet electrification consisting of 150 trucks.
- Designed and implemented the electric truck fleet behavior in CityMoS (**C++**) traffic simulator.
- Supervised 12 student theses as part of their Bachelor's and Masters's courses.
- Published 5 research articles on Autonomous Fleets and Connected Vehicles simulations.
- Doctoral research in Connected Vehicles Simulations by building a new simulator called Disolv (**Rust)**.

Research Engineer

TUMCREATE **December 2019 - May 2021, Singapore**

- Developed synthetic trip generation module (**Java**) capable of generating >1 million trips for CityMoS traffic simulator.
- Implemented a taxi state machine model in CityMoS (**C++**) to support simulations of >100000 taxi vehicles.
- Part of a 4-person team that enabled a Singapore-wide study of electrified public and private transportation systems.
- Assisted in comparative analysis of traffic simulators MATSim, SimMobility, VISSIM, and CityMoS.

Research Engineer

Nanyang Technological University (NTU) **July 2017 - November 2019, Singapore**

- Implemented network simulations (**C++**) to carry out truck platooning studies with 1000 vehicles.
- Published an article on the impact of channel crowding and packet loss on the truck platooning performance.
- Modeled e-bikes in the mobility simulation and developed scenarios to model their interactions with pedestrians.
- Completed 2 individual research projects and assisted the other 3 projects within the team.

Software Engineer

Accenture **November 2013 - June 2015, Bengaluru, India**

- Saved 80% of the human time in multiple repetitive tasks through my automation solutions.
- Primary responsibility to maintain C++ and bash scripts because of my familiarity with programming.
- Top performer award within a short period led to an early promotion with best remarks.

SKILLS

Programming: Rust, C++, Python, Java

Simulators: CityMoS (C++), Disolv (Rust), and ns-3 (C++)

Others: Git, SQLite, polars, flower, OMNeT++, MATLAB, VISSIM

EDUCATION

Master of Science in Automation and Control

National University of Singapore (NUS) • Singapore, Singapore • 2016 • 3.75/5.0

- Published a research article on the study of a mobile robot navigation method.

Bachelor of Engineering in Electrical and Electronics Engineering

SDM College of Engineering and Technology (SDMCET) • Dharwad, India • 2013 • 8.94/10

- Published a research article on simulation of controllers for AC Transmission.