



Muhammad Tabish Bilal

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ABOUT ME

Adjunct Assistant Professor and **Research Fellow** at the Università Degli Studi di Genoa, Italy, in the Transportation and Logistics Lab.

Transport Modeller with extensive experience in **Transport Network Design, Network Optimization, Sustainable Urban Mobility, and Autonomous Vehicle Integration.**

Proven track record in **EU-funded projects (RAISE, OMICRON, AI.WAY Port, GeTUP)**, developing **Decision Support Systems, Transport Models, and Traffic Optimization Algorithms.** Skilled in **MATLAB, PTV Suite, Python, and ArcGIS**, with a strong background in data-driven transport planning and policy.

SKILLS

machine learning / MATLAB / PTV Visum & Vissim (Traffic Modelling) / artificial neural networks / Python (computer programming) / simulate transport problems / transportation engineering / multimodal transport logistics

WORK EXPERIENCE

 **DIME, Università degli Studi di Genova** – Genova, Italy

City: Genova | Country: Italy

Link <https://rubrica.unige.it/personale/UUROW1hh>

PROFESSORE A CONTRATTO

[15/02/2024 – Current]

• Teaching courses:

- Safe & Reliable Transport Systems, Course code 101499** for the first-year class of Master's in SAFETY ENGINEERING for TRANSPORT, LOGISTICS, AND PRODUCTION.
- Advanced Transport Systems Design, Course code 104795** for the Second-year class of Master's in SAFETY ENGINEERING for TRANSPORT, LOGISTICS, AND PRODUCTION.

• Thesis Supervision

- "Enhancing multimodal urban mobility: An optimization framework for public transport, on-demand, and micromobility", Master thesis by Farivar Givehchimotlagh
- "Simulation and Optimization of Highway Maintenance: The A1 case study", Master thesis by Gabriele Reviglione.
- "Optimizing Road Maintenance Strategies: A Traffic-based Planning Approach", Master thesis by Sina Daneshpouran Moghaddam.

 **DIME, Università degli Studi di Genova** – Genova, Italy

City: Genova | Country: Italy

ASSEGNISTA DI RICERCA

[29/04/2023 – Current]

- Lead Researcher in the project of **Ecosystem of Innovation "RAISE (Robotics and AI for Socio-economic Empowerment)"**.
 - Designed a detailed state-of-the-art professional-level **Transport Demand Model of the city of Genova in simulation software PTV Visum**.
 - Developed a **Smart Machine Learning** algorithm to identify critical road segments.
 - Provide machine learning-based **Virtual Traffic Calming** to increase **40% Freight Traffic** in the transport network without causing congestion.
- Researcher in **OMICRON Project as a part of EU Horizon 2020**.
 - Lead developer of **Optimization Models and Algorithms** in Python for More efficient road intervention processes and reduction of traffic disruptions.
 - Development of a state-of-the-art **Decision Support System** which resulted in a **31%** reduction in road maintenance costs, an **8%** improvement in road capacity, and a **14%** reduction in congestion on highways.

 **DIME, Università degli Studi di Genova** – Genova, Italy

City: Genova | Country: Italy

FIXED TERM RESEARCH FELLOW - GREEN MAAS FOR ADAPTIVE URBAN PLANNING (GETUP) PROJECT

[01/12/2022 – 31/03/2023]

- Developed a **Navigation Algorithm API** for commercial MaaS applications **currently being used in the GeTUP App** commercially by **Algowatt SpA**.
- Provided successful deliverables of the GeTUP Project in a record time of 3 months.
- Conducted **Network Analysis of Genoa**, proposing a new **Sustainable Demand Responsive Transit System** in collaboration with **EXIS International**.

 **DIME, Università degli Studi di Genova** – Genova, Italy

City: Genova | Country: Italy

TEACHING SUPPORT ASSISTANT

[01/09/2022 – 31/12/2022]

- Providing teaching support for the practical part in the subject of "**SMART & SAFE LOGISTICS**" (cod. 90941) for the class "**Master's in SAFETY ENGINEERING for TRANSPORT, LOGISTICS, AND PRODUCTION**".

 **The Urban Sector Planning & Manahgement Unit (USPMU)** – Lahore, Pakistan

City: Lahore | Country: Pakistan

RESEARCH OFFICER TRANSPORTATION

[31/10/2016 – 21/08/2017]

- Provided technical research services for the **UNDP** project of Pakistan **Sustainable Transportation Project (PAKSTRAN)**.
- Served as **Lead policy consultant** in the transport team for devising **Punjab Road Policy** under the project of **PUNJAB SPATIAL STRATEGY 2020**.
- Formulated the first **Punjab Public Transport Manual**.
- Developed the **Public Transport Accessibility Index** for Punjab using ArcGIS and PTV Visum software together with junction and public transportation optimization.
- Facilitated **Workshops and Seminars** training professionals and engineers from the transport sector all around the country together with writing and editing the proposals for collaborative research initiatives to different organizations.
- Performed **Feasibility studies, Surveys and Supervision** of staff in **Parking Design project** for MAO Hospital Lahore.

Construction Solutions: Total Bid Data New york – Lahore, Pakistan

City: Lahore | Country: Pakistan

JUNIOR ESTIMATION ENGINEER

[31/05/2016 – 30/10/2016]

Worked on **United States projects** for Building and Highway construction. Performed intense **Estimations** for the construction and maintenance works using **Plan Swift v 9.0** facilitating bidding for the tender of projects. Take-offs for estimation sheets using project plans and detailed drawings.

EDUCATION AND TRAINING

Ph.D. Transportation & Logistics

University degli studi di Genova [01/11/2019 – 31/10/2022]

Address: Via Montellegro 1, 16145 Genova (Italy) | Thesis: Compound Impacts on Private and Public Transport Network Performance on Inclusion of New Forms of Mobility

Visiting PhD Researcher

Centre d'Innovació del Transport - CENIT [31/01/2022 – 31/07/2022]

Address: Carrer Jordi Girona, Plaça Telecos, 1-3, C3, 08034 Barcelona (Spain) | Website: <https://cenit.es/about/meet-our-team/muhammad-tabish/>

MSc TRANSPORTATION ENGINEERING

Budapest University of Technology and Economics, Budapest, Hungary. [12/11/2017 – 10/07/2019]

City: Budapest | Country: Hungary | Field(s) of study: Transportation Systems Engineering | Thesis: Travel time reliability in public transport route assignment

Major task was to find the parameters of travel time reliability that can affect the perceived journey times of public transport and their effect on inclusion into assignment model using PTV Visum. The model developed for this research was of the city of Karlsruhe, Germany

BSc TRANSPORTATION ENGINEERING

University of Engineering & Technology [30/09/2012 – 14/06/2016]

City: Lahore | Country: Pakistan | Thesis: Evaluation of locally available bitumen & aggregate used in hot mix asphalt production in Pakistan

Major task was to characterize bitumen and aggregate for usage in hot mix asphalt for better long term functional properties.