Vaibhav Singh Negi

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EDUCATION AND SCHOLASTIC ACHIEVEMENTS

Program	Institute	% / CGPA	Year
M.Tech in Infrastructure Design and Management	Indian Institute of Technology, Kharagpur	8.50 CGPA	*2026**
Bachelor of Architecture (B. Arch)	Guru Gobind Singh Indraprastha University, Delhi	86.5%	*2024*
Higher Secondary School (XII) - CBSE	The Indian Heights School, Dwarka	81.6%	*2019*
Senior Secondary School (X) - CBSE	M.L. Khanna DAV Public School, Dwarka	9.2 CGPA	*2017*

• **Finalist (Top 6 of 100+)** –Playground-on-Wheels Competition (2023) by Vadodara Smart City & WRI India.	*2023*
• Secured **97.7** percentile in GATE 2024 Architecture and Planning, conducted by **IISc Bangalore**	*2024*
• **Prime Minister's Scholarship** —Awarded to the **top 2,000 students** across India for the years 2021 & 2023.	*2021+2023*

PROFESSIONAL EXPERIENCE

pManifold Business Solutions *(Dec'25 – Feb'26)*	**E-Mobility Intern** • Performed TCO analysis and financial modelling for e-Buses implementation in Belize. • Conducted GHG emissions modelling to evaluate lifetime environmental impacts of e-bus adoption. • On-ground implementation through GIS-Routing and route-level energy modelling for charger sizing.
TUTEM Project *Asian Development Bank* *(May'25 – Jul'25)*	**Transportation Analyst Intern** • Modeled safety perceptions across **10 cities**, projecting a **15% shift** to metro/bus with **30% fewer** incidents. • Quantified environmental impact, estimating a potential reduction of **2,200 tons of CO_2** emissions annually. • Analytical tools (R, QGIS, Econometrics, Excel pivots &macros) for modeling and safety hotspot analysis
Waste Warriors Society *(Dec'24 – Jan'25)*	**Research Intern** • Designed QGIS-based models to optimize waste logistics and expand coverage to 200,000+ residents • Conducted 50+ field visits to identify funding gaps (₹16.22L–₹24.34L) with operational issues in 10+ PWMUs • Presented findings and recommendations to the State Government officials for effective resource allocation

PROJECTS

pManifold Business Solutions *(Dec'25)*	**UNDP E-Mobility Implementation in Belize's Public Transportation: Financial and Environmental Modelling** • Assessed the baseline public transport system with 950+ ICE buses (Average fleet age ~25 years) • Conducted GIS-based route mapping, Route-level & network-wide TCO and emissions between ICE and EV • Built scenario-based TCO and GHG emissions models over a 15-year horizon, with 80% emissions reduction
M.Tech Project* *(Jun'25 – Present)*	**Assessing Route-Based Feasibility of Electrifying Bus Fleet: A Case from India** • Built a route-level techno-economic model to evaluate TCO and assess operator-level financial feasibility. • Applied Python, QGIS, and Advanced Excel for behavioral analysis.
Construction Economics & Finance *(PG, IIT KGP)*	**Financial Modelling for Drinking Water Supply System** • Structured a $655.6M project financing model for water supply with 85% JICA[3] debt (0.5%) and 15% equity. • Delivered 18% IRR[4] and 2.53% WACC[5] over 20 years, with sensitivity analysis on cash flow stability and risks. • Applied PPP framework and advanced Excel-based financial modelling to evaluate feasibility.
Transportation project *(PG, IIT KGP)*	**Multinomial Logit Analysis of Access–Egress Connectivity in Delhi** • Conducted survey of 100+ users; cleaned, encoded origin–destination data and attributes for modeling. • Developed a MNL[6] model (70/30 validation) to estimate factors affecting access/egress mode choice • Identified last-mile connectivity gaps and converted model outcomes into quantified recommendations.

SKILLS

- **Transportation Analyst:** Network modelling (PTV Vissim), Discrete choice/demand modelling (Multinomial Logit – MNL), AutoCAD
- **Project & Financial Analysis:** PPP[8] valuation, cost–benefit and feasibility studies (financial projections), DCF Modelling
- **Data analysis & visualization:** Advanced Excel (VBA[9], pivot tables), Python (pandas, NumPy – *basics*), Power BI
- **GIS & surveys:** QGIS (base maps, land-use analysis), QNEAT3[7], origin–destination (OD) survey design and data cleaning.

CONFERENCES & PRESENTATIONS

Vaibhav, S.N., Paul, N. Majumdar, D., Goswami, A.K. (2025). *Electric Bus & Fleet Adoption in Kolkata: A Literature Review on Modelling Approaches for Sustainable Transport*. In the **Proceedings of the 12th International Conference on Sustainability**, IIM Shillong
ISBN Number: 978-93-344-2253-5

CERTIFICATIONS

PTV Vissim & Viswalk Basics (Udemy)	Nov' 25	BCG Climate & Sustainability Job simulation	Dec' 25
Data Fundamentals for Sustainable Mobility (TUMI)*	Sept' 25	Data Analysis in Advanced Excel	Jun' 25
CFI[10] Financial Analysis Professional certificate	Aug' 25	Infrastructure Financing Foundations	Nov' 24

POSITIONS OF RESPONSIBILITY

Students' Research Club	**Executive Head** | IIT Kharagpur Led a **40-member team** to launch 15+ R&D projects and 30+ outreach events, impacting ~6,000 students.
Placement Coordinator	Spearheaded outreach initiatives to 5+ sectors and initiated Industry–Alumni Connect with 40+ alumni
Extra - Curricular:	Badminton (Gold & Bronze medal winner) • Table Tennis • Cycling • Swimming

*Ongoing
#1 *Discounted Cash Flow* **#2** *net present value* **#3** *Japan International Cooperation Agency* **#4** *Internal Rate of Return* **#5** *Weighted Average Cost of Capital* **#6** *multinomial logit model* **#7** *QGIS Network Analysis Toolbox* **#8** *Public-Private Partnership* **#9** *Visual Basic for Applications* **#10** *Corporate Finance Institute*