

# SUMAN SUKUMAR DHARMASTHALA

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## EDUCATION

### School of Planning and Architecture, New Delhi

India

*Master of Planning – Specialization in Regional Planning*

*July 2012 - May 2014*

- Institute of National Importance; received Graduate Aptitude Test in Engineering (**GATE Architecture and Planning - All India Rank: 321 in 2012**) Scholarship
- **64%** (First Class)
- **Relevant coursework:** Socio-economic Base for Planning, Statistics, Environmental Planning and Rural Development, Land Markets and Management (Economics), Poverty and Development, Public Policy, Infrastructure Management, Financing Development and live projects
- **Thesis:** Impact of Regional Economic Growth on Spatial Development, Case Study of Udupi and Dakshina Kannada Districts, Karnataka

### National Institute of Technology, Bhopal

India

*Bachelor of Planning*

*July 2008 – April 2012*

- Institute of National Importance
- **80.7%** (Distinction)
- **Relevant coursework:** Applied Maths, Statistical Methods, Utilities and Services Planning, Elements of Economics, Rural, Ecology and Resource Planning, Environmental Science and Planning, Urban Energy Systems, Land Economics and Management, Public Finance, Policy and Legislation, Energy systems, Operation Research and System Analysis, and Socio-economic Planning
- **Thesis:** Correlating Crime with Physical Environment, Case Study: Bangalore

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## PUBLICATIONS

- Hari, V.\*, **Dharmasthala, S.\***, Koppa, A., Karmakar, S. and Kumar, R. (2021) Climate hazards are threatening vulnerable migrants in Indian megacities”, in: *Nature Climate Change*. DOI: [10.1038/s41558-021-01105-7](https://doi.org/10.1038/s41558-021-01105-7). Note: \* - equal contribution.
- Hari, V., Koppa, A., **Dharmasthala, S.**, Swain, B., Kumar, R., Andreae, M. O., Martin, S.T., Liu, P., Sahoo, A., and Gunthe, S.S. (2024) Sea- level rise induced migration endangers risks sustainable multilingualism in Bharat (India)”, manuscript submitted to *Nature Sustainability*
- Cirunay C T., Batac R C., **Dharmasthala, S.** (2024) 'Urban Topologies at Various Road Level Classifications', manuscript submitted to *Urban Studies*

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## EXPERIENCE

### Ability Stack Techsolutions Pvt. Ltd.

September 2022 – February 2023

*Software Developer - Data and Analytics*

*Remote, India*

- Developing and evaluating several models for Job Recommendation Models using Natural Language Processing (NLP)
- Back-end development of code for Elastic Search API deployment

**Helmholtz Centre for Environmental Research (UFZ)***Research Assistant - Data and Analytics*

July 2021 – October 2021

*Leipzig, Germany*

- Data, analytics and academic writing on the lines of Climate change impacts and policy – specifically focusing on the climate change-induced migration over India, which is published in Nature Climate Change at the Department of Computational Hydrosystems

**Data Scientist and Researcher - Freelancing**

March 2020 – Present

*India/Germany/Czech Republic*

- Associated with Centre for Atmospheric and Climate Sciences at IIT Madras for Research Projects under the guidance of Prof. Sachin Gunthe for a submitted Manuscript as well as a manuscript underway
- Research Assistant in Faculty of Environmental Sciences, Czech University of Life Sciences Prague, Czech Republic (Remote) - research on Urban Heat Island Effect for cities of Europe (Dec 2020 to April 2021) - Data, analysis and academic writing
- Time series modelling for prediction of electricity consumption (using weather data) and prediction of electricity pricing (Market Clearing Price (MCP) of Indian Energy Exchange (IEX) using various machine learning models (completion of Young Data Scientist Program offered by Climate Connect Digital)
- Attended Complex Networks Winter Workshop 2021 (CNWW) organized by Vermont Complex Systems Centre at the University of Vermont (USA). Manuscript under process on analysis of urban road network using complex networks
- Undertook various freelance and research work

**Indian Institute for Human Settlements (IIHS)***Research Associate*

November 2018 – March 2020

*Bangalore, India*

- Research on land value capture and land based financing by government and private agencies – study involved looking at institutions involved, practices followed, policies, legal cases and data

**Khatib and Alami Engineering Consultants Private Ltd.***Urban Planner*

March 2018 – November 2018

*Bangalore, India*

- Preparation of development plan for greenfield area (186 sq km), land suitability analysis, report writing and editing
- Assessing key performance indicators at the country level for OPEC countries
- Involved in business development and bidding process for a housing and land related project in Tanzania

**National Capital Region Planning Board (NCRPB), GoI***Urban/Regional/Infrastructure Planner*

May 2017 – October 2017

*Delhi, India*

- Integration of 6 newly added districts in the National Capital Region ( 55,000 sq km) to the Regional Plan 2021 and preparation of Regional Plan 2041 (with special focus on Chapters of: Region, Shelter/Housing, Heritage and Tourism, Environment, Disaster Management, Sewerage, Solid Waste Management, Drainage and Irrigation, Regional Land use, Demography and Settlement Pattern, Power)
- Preparation of response documents for legal representations received at NCRPB

**Royal HaskoningDHV Pvt. Ltd.***Assistant Manager - Planning*

June 2014 – May 2017

*Bangalore, India*

- Planner in the core team preparing the Bangalore Master Plan 2031, identified issues, proposed solutions, and presented to the Chief Minister and Chief Secretaries of Govt bodies

- Work included data collection, data analysis, report writing, mapping (thematic and analysis), and conducting stakeholder interviews and public consultation workshops for various sectors including but not limited to economy, environment, housing, infrastructure, heritage, power, solid waste management, governance and organizational setups, policy frameworks, traffic and transport, land use, housing and building densities
- Handled Economy Sector: Baseline Report on Economy of Bangalore; survey questionnaire preparation, conducting interviews and analysing Industrial Perception Survey, Market (Retail and Wholesale) Survey and Socio-economic survey of 10,000 Household, Sectors of Economy, Estimation of Baseline Employment and their spatial mapping used for creation of traffic analysis zones, Real Estate analysis and Land Value Mapping using guidance values and projections, mapping existing work centres
- Handled Environment sector: Spatial analysis of natural/storm water drainage of the city and assessing stream order, watershed and basins from flow accumulation from DEM (hydrology analysis) for derivation of hierarchy of urban streams, mapping lakes and environmentally sensitive areas, spatial analysis to locate city's landfill sites, mapping solid waste management infrastructure

## **Masters and Bachelors Projects**

July 2008 – May 2014

*Student*

*Delhi and Bhopal, India*

- Complete plan preparation in one of the key urban/regional sectors:
  - \* Zonal Plans for areas in Bhopal and Delhi
  - \* Development Plans for cities of Sanchi, Indore and Mandi
  - \* Regional Plans for Diu District (focus on economy) and Aizawl District (focus on social sector)

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## **PROGRAMMING AND COMPUTER SKILLS**

**Statistics and Modeling:** Data Science (specifically: natural language processing (NLP), time series prediction and spatial analysis including NetworkX), Statistical Analysis and Visualization in Python and R, PostgreSQL, Excel

**Mapping:** ArcGIS, QGIS, ERDAS Imagine, Google Earth, OpenStreetMap

**Others :** LaTeX, Linux, Git, C++ , Adobe InDesign, Illustrator and Photoshop

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## **OTHERS**

**Nationality:** Indian

**Languages:** English (professional proficiency), Hindi, Kannada, Tulu