

# Suman Sukumar Dharmasthala

✉ [suman.nad@gmail.com](mailto:suman.nad@gmail.com) | [in](#) | [G](#)

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## PROGRAMMING SKILLS

**Statistics and Modeling:** Python, R, Excel, Postgre-SQL (learning), NetLogo (learning)

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

**Others :** LaTeX, Linux, Git, C++

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## PROFESSIONAL EXPERIENCE

### Independent Data Scientist

March 2020 – Present

*Germany/ Czech Republic/ India*

- Time series forecasting of electricity consumption, and price using machine learning models using Python
- Data Analysis and Visualization using R: Inter-state migration in India using Census 2001 and 2011 and climate related vulnerabilities
- Network Analysis to find street network efficiency and bipartite migration networks to find potential growth centres using Python
- Ranked 2nd among 100+ applications in Young Data Scientist Program organized by Climate Connect Digital
- Research Assistant in Helmholtz Centre for Environmental Research (UFZ), Leipzig, Germany - from July 2021 to Oct 2021
- Ongoing research work on Urban Heat Island Effect (time series and netcdf data using Python)
- Authored several publications in high impact international journals and media

### Indian Institute for Human Settlements (IIHS)

November 2018 – March 2020

*Research Associate*

*Bangalore, India*

- Real estate financing by government & private agencies - practices, policies and data

### Khatib and Alami Engineering Consultants Private Ltd.

March 2018 – November 2018

*Urban Planner*

*Bangalore, India*

- Land Suitability analysis, KPIs at country level for OPEC countries, business development

### National Capital Region Planning Board (NCRPB), GoI

May 2017 – October 2017

*Urban/Regional/Infrastructure Planner*

*Delhi, India*

- Integration of 6 newly added districts in the National Capital Region ( 55,000 sqkm) to the Regional Plan 2021

### Royal HaskoningDHV Pvt. Ltd.

June 2014 – May 2017

*Assistant Manager - Planning*

*Bangalore, India*

- Worked in the core team preparing the Bangalore Master Plan 2031, identified quantifiable issues, proposed solutions, presented to the CM and Chief Secretaries of Govt bodies
- Work included data collection, data analysis, report writing, mapping (thematic and analysis), workshop conduction and stakeholder management

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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; GATE Scholarship (First Class)

### National Institute of Technology, Bhopal

India

*Bachelor of Planning*

*July 2008 – April 2012*

- Institute of National Importance (Distinction)
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## OTHER PROJECTS

- Hierarchy of Streams - Spatial analysis of natural/storm water drainage of the city and assessing stream order, watershed and basins from flow accumulation from Digital Elevation Model (hydrology analysis) - *model vetted by IISc & Govt. of Kar*
  - Identified issues, gaps and prepared proposals for the Bangalore Master Plan by interacting and analysing data from 10,000+ households via primary and secondary data
  - Impact of Regional Economic Growth on Spatial Development - Entailed data collection, mapping, scalogram, classification of hierarchy of settlements, supervised classification of satellite imagery using ERDAS Imagine
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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. [*Published in high-impact journal, 400+ Altmetric score: in 99th percentile, 10k+ downloads, mentioned in several news media articles*]
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## INTERESTS & HOBBIES

- Exploring complex system science and various tools such as Agent Based Modeling, Complex Networks, its applications in real world and attending workshops
- Playing violin: Professionally trained, upskilling through Suzuki Violin method
- Blogging: building up my [blog](#) with portfolio underway with GitHub Pages and Jekyll
- Others: Travel (visited 22 States in India for travel/work); photography and editing