nitin bhushan

data science | consultant | research

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profile

Curious about a data-driven approach to solve complex problems, I spend my time connecting the dots between engineering, machine learning & statistics, and AI.

education

PhD | statistical modelling
university of groningen
netherlands | (expected) sep 2019

- topics: additive models, time series, graphical models, causal inference
- developed models to explore, understand, and predict the human dimension of the energy transition
- advisors: linda steg, casper albers

MSc | artificial intelligence
maastricht university
netherlands | 2013

- foundations in probabilistic modelling
- relevant courses: data mining & machine learning,text mining, multi-agent systems

BE | electrical engineering
msrit | bangalore, india | 2009

- foundations in energy systems
- relevant courses: engineering mathematics, control theory, network analysis, signal processing, power systems analysis

experience

University of Groningen | researcher, consultant, lecturer
september 2015 - september 2019 | groningen, netherlands

- internal consultant: statistical modelling of high frequency time-series data.
- developed tools to evaluate the effectiveness of energy efficiency programs and model big data in the energy sector.
- applied models to explore, understand, and predict human behaviour.
- researched the applicability of causal Bayesian networks to solve problems of causal inference in psychology.
- designed and developed an interactive dashboard using r-shiny to visualize and model time-series data.
- delivered interactive workshops and lectures in statistical modelling (>300 students).
- initiated, collaborated and delivered on four multi-disciplinary data science projects.
- supervised & trained junior researchers.

TU Eindhoven | smart energy systems consultant trainee
january 2014 - june 2015 | eindhoven, netherlands

- developed and researched innovative business models to fund the energy transition.
- created future energy scenarios and provided optimal technology-based solutions in each scenario.
- developed proof-of-concepts for implementing data-driven solution to facilitate smart buildings.

Xerox Research | machine learning intern
june 2012 – september 2013 | grenoble, france

- researched and implemented an extension to the hidden Markov model to describe sequential data where the state duration follows a truncated distribution and the dynamics of the model depend on whether the truncation was reached.
- developed a smart energy management system for electrical devices.
- delivered production-ready code in Python to learn real-time performance indicators of electrical devices.

Infosys technologies | systems engineer trainee
2010 - 2011 | bangalore, india

- extensive training on SQL and object oriented programming concepts.

tools & skills

expert: R • LaTeX
proficient: python • MS Excel • SQL • C#
algorithms
- data visualisation & exploration
- regression, classification & clustering
- statistical inference (model based & algorithmic)
- time-series modelling & forecasting
- predictive & causal modelling

inter-disciplinary

has worked with
engineers • architects
applied psychologists • statisticians
data scientists • designers
sales & marketing managers

languages

fluent
english • hindi • tamil
intermediate
dutch [A2-B1]

interests

likes
rock climbing & bouldering • cooking not-too-spicy indian food • to bike around the Netherlands • science fiction movies and books • vrijmibo in the sun

would like to
swim well • learn the drums • ride through Patagonia

online courses

data science
Deep Learning & Neural Networks
The Data scientist's Toolbox
R programming
Machine Learning
Probabilistic Graphical Models
Introduction to Mathematical Thinking
Statistical Inference

business modelling
Introduction to Spreadsheets and Models
Fundamentals of Quantitative Modelling

energy systems
solving the energy puzzle

core competencies

- digitalization of traditional industries
- statistical modelling & data science (big data)
- project management
- research & consulting
- multi-disciplinary communication
- leadership & collaboration

entrepreneurship

Winner | living data city challenge

eindhoven, netherlands | 2015

- identitrash: our trash, community treasure
- developed a new business model for waste management

Summer school | esade

barcelona, spain | 2014

- design thinking, entrepreneurial finance, marketing, new product development, service innovation, HR management, managing growth, intellectual property.

papers

peer-reviewed publications

- Using a Gaussian Graphical Model to Explore Relationships Between Items and Variables in Environmental Psychology Research.
  Frontiers in Psychology.
  doi: 10.3389/fpsyg.2019.01050
- Studying the effects of intervention programmes on household energy saving behaviours using graphical causal models.
  Energy Research & Social Science.
  doi: 10.1016/j.erss.2018.07.027

talks

- Comparing causal search methods.
  5th International Conference on Computational Social Science.
  Amsterdam, Netherlands, July 2019.
- Using Gaussian graphical models in environmental psychology.
  29th International Conference of Applied Psychology.
  Montreal, Canada, June 2018.
- Detecting patterns in household electricity consumption after behavioural interventions.
  4th European Conference on Behaviour and Energy Efficiency.
  Coimbra, Portugal, Sep 2016.

outside activities & awards

UM high potential scholarship — awardee
bharat scouts & guides — governor's award
indian student association maastricht — secretary
heymans symposium 2015 — organising committee
clean green civic club — founder