Nitin **Bhushan**

data scientist, MSc.

W.A Scholtenstraat 2a, 9712 KW Groningen, The Netherlands (+31) 644 024 293

bhushan.nitin@posteo.net nbhushan.github.io

Profile

Curious about the dynamics involved in a data-driven transition to a sustainable society, I spend my time connecting the dots between electrical engineering, machine learning (and statistics), sustainable energy technology, and behavioural sciences (environmental psychology).

Education

PhD., Psychometrics and Statistics, University of Groningen, Groningen, The Netherlands 2015–Sep 2019
Exploring and understanding the human dimension of the energy transition using probabilistic graphical models.

Research assistant, Smart Energy Building and Cities, TU Eindhoven, The Netherlands 2014–2015
Connecting the dots between power systems, sustainable energy technology, and statistical modelling.

Summer School, Entrepreneurship for scientists, ESADE, Barcelona, Spain Summer 2014
Entrepreneurship and creative thinking. Trained in design thinking, entrepreneurial finance, marketing for engineers and scientists, new product development and service innovation, HR management, managing growth and intellectual property.

Master of Science (MSc.), Artificial Intelligence, Maastricht University, The Netherlands 2011-2013
Foundations in probabilistic modelling. Completed courses and assignments on Data mining, multi-agent systems, knowledge representation and logic, games and AI, statistical relational learning, text Mining (NLP and information retrieval).

Bachelor of Engineering (BE), Electrical and Electronics Engineering, M.S Ramaiah Institute of Technology, Bangalore, India 2005-2009
Foundations in electrical power system and systems thinking. Other Courses: engineering mathematics, control theory, network analysis, signal Processing

Experience

Collabera Solutions, Engineer, Bangalore, India 2010-2011
Wireless and embedded systems engineer

Infosys Technologies, Systems Engineer, Mysore, India 2009-2010
Software engineer trainee. Was provided extensive training on C programming, SQL, object oriented programming with Java, and took part in Infosys leadership institute activities.

Tools and Skills

Proficient in Python, R, LaTeX, SQL
Experience with graphical models, regression analyses, hidden Markov models and time-series analysis, hypothesis testing, expectation-maximisation and variational inference, clustering and classification, data visualisation, R shiny dashboards, scikit-learn, exploratory data analyses.

Research Projects

Quasi-Deteministic Hidden Markov Models, Xerox Research Center Europe, Grenoble, France 2013
Supervised by Dr. Jean-marc Andreoli, Dr. Kurt Driessens
Developed 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 are dependant on whether the truncation was reached. Experiments were performed on modelling the electrical power consumption signature of printers based on real power data. The developed extension provides an accurate descriptive model in comparison to the standard hidden Markov model without loss of parsimony.

Autonomous power consumption monitoring system, Xerox Research Center Europe, Grenoble, France 2012
Supervised by Yves Hoppenot, Dr. E.N. Smirnov
Developed a probabilistic data-driven modelling approach based on the expectation-maximisation algorithm to explore patterns in how devices consume electrical energy.

Publications

published

[1] Studying the effects of intervention programmes on household energy saving behaviours using graphical causal models
Nitin Bhushan, Linda Steg, Casper Albers
Energy Research & Social Science pp. 75–80. 2018. DOI: https://doi.org/10.1016/j.erss.2018.07.027

in preparation

[1] The Value of the Gaussian Graphical Model to Explore Relationships between variables in Environmental Psychology
Nitin Bhushan, Florian Mohnert, Daniel Sloot, Casper Albers, Lise Jans, Linda Steg
to be decided. 2018

[2] Comparing Causal Discovery Methods
Nitin Bhushan, Casper Albers, Laura Bringmann
Multivariate Behavioral Research. 2018

Teaching

Lecturer and teaching assistant in Statistics, supervision of bachelor thesis.

MOOC Courses

The Data scientist's Toolbox, R programming, Machine Learning, Irrational behaviour, Probabilistic Graphical Models, Introduction to Mathematical Thinking Statistical Inference, Causal Inference

Languages

English: Fluent
Dutch: Intermediate (A2- B1)

Personal interests

Science and technology, languages, hiking, rock climbing and bouldering, cooking, science fiction

References

prof. dr. Casper Albers, Professor of Statistics, University of Groningen
c.j.albers@rug.nl
Faculty of Behavioural and Social Sciences, Department Psychometrics & Statistics, Grote Kruisstraat 2/1, 9712 TS Groningen, The Netherlands

prof. dr. Linda Steg, Professor of Environmental Psychology, University of Groningen
e.m.steg@rug.nl
Faculty of Behavioural and Social Sciences, Department Environmental Psychology, Grote Kruisstraat 2/1, 9712 TS Groningen, The Netherlands

Dr. Jean-Marc Andreoli, Lab Chief Scientist in Machine Learning,
Naver Labs (formerly Xerox Research Centre Europe)
jean-marc.andreoli@naverlabs.com
Naver Labs Europe, 6-8 Chemin de Maupertuis, 38240 Meylan, France