

KISHOR PATIL

◇ Email : kishor.patil@inria.fr ◇ Phone No. (+32) 621 62 66 20 ◇ <http://kishor88k.github.io/>

5 Avenue Gazan, Antibes 06600, France

RESEARCH INTERESTS

Stochastic Modelling, Queueing theory, Markov Decision Processes, Reinforcement Learning, Multi-Arm Restless Bandits, Mean Field Limits, Fluid Approximation.

EDUCATION

Ph.D. , Telecommunications and Information Processing, Ghent University	Dec. 2015 - Sept. 2019
M.Tech. , Industrial Engineering and Operations Research, IIT Bombay (GPA: 9.16/10)	Jul. 2012 - Jun. 2014
B.Tech. , Electronics and Telecommunication, SGGSIT Nanded (GPA: 8.43/10)	Jul. 2008 - Jun. 2012

RESEARCH EXPERIENCE

Postdoctoral Fellow INRIA, Sophia Antipolis, France Advisor: Dr. K. Avrachenkov Stochastic approximation and reinforcement learning with applications in page crawling.	Oct. 2019 - Present
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Ph.D. Research Ghent University, Ghent, Belgium Advisors: Prof. D. Fiems, Dr. K. De Turck Stochastic modelling of wireless sensor networks.	Dec. 2015 - Sep. 2019
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Visiting Research Fellow Laboratoire des Signaux et Systèmes, CentraleSupélec, Paris, France Supervisor: Dr. K. De Turck Optimal control in large scale wireless sensor networks - A mean field approach	Sep. 2018 - Nov. 2018
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Masters Thesis IIT Bombay, Mumbai, India Advisor: Prof. N. Hemachandra Firm User-set Interactions in the Context of Admission Control Queues - Equilibrium sets	May. 2013 - Jun. 2014
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JOURNAL PUBLICATIONS

- **K. Patil**, M. Jafri, D. Fiems and A. Marin. Stochastic Modeling of Depth Based Routing in Underwater Sensor Networks. *Ad Hoc Networks* 1570-8705 (19) : 132-141, 2019
- **K. Patil**, K. De Turck, and D. Fiems. Optimal data collection in wireless sensor networks with correlated energy harvesting. *Annals of Telecommunication* 1958-9395 : 1-12, 2018.
- **K. Patil**, and D. Fiems. The value of information in energy harvesting sensor networks. *Operations Research Letters* 46 (3) : 362-366, 2018.
- **K. Patil**, K. De Turck, Koen and D. Fiems. A two-queue model for optimising the value of information in energy-harvesting sensor networks. *Performance Evaluation* 0166-5316 (119) : 27-42, 2017.
- **K. Patil**, K. De Turck, and D. Fiems. Optimal control in large scale wireless sensor networks - A mean field approach . *Performance evaluation, under preparation*, 2020.
- N. Hemachandra, **K. Patil**, and S. Tripathi. Equilibrium points and equilibrium sets of some GI/M/1 queues *Queueing Systems, Submitted - First revision completed*, 2020.

PROCEEDINGS AND REPORTS

- K. Avrachenkov, **K. Patil** and G. Thoppe. Change Rate Estimation and Optimal Freshness in Web Page Crawling, *In VALUETOOLS 2020 - 13th EAI International Conference on Performance Evaluation Methodologies and Tools*. ACM, New York, NY, USA, 3-10.
- **K. Patil**, K. De Turck, and D. Fiems. Optimal Data Collection in Hybrid Energy-harvesting Sensor Networks. *Analytical and Stochastic Modelling Techniques and Applications* 9845:239-252, 2016.

- N. Hemachandra, S. Tripathi, and **K. Patil**. Equilibrium sets of some $GI/M/1$ queues (with more examples). *IIT Bombay* 2016.

TEACHING EXPERIENCE

Ghent University

Teaching Assistant, Department of TELIN, Ghent University

C003399 Computer Intensive Statistical Methods Spring 2018

IIT Bombay

Teaching Assistant, Department of IEOR, IIT Bombay

- **IE 616** Decision Analysis and Game Theory Spring 2014
- **IE 605** Engineering Statistics Autumn 2013

SELECTED TALKS

- **K. Patil**, joint work with K. Avrachenkov and G. Thoppe INRIA, 2020
Online algorithms for estimating page change rates in adaptive web page crawling
- **K. Patil**, joint work with K. De Turck, Koen and D. Fiems INRIA, 2019
Performance evaluation of large-scale wireless sensor networks - A mean field approach.
- **K. Patil**, joint work with K. De Turck, Koen and D. Fiems IIT Bombay 2019
Stochastic Modelling of energy harvesting wireless sensor networks
- **K. Patil** joint work with M. Jafri, D. Fiems and A. Marin StochMod 2018
Performance evaluation of depth based routing in underwater sensor networks
- **K. Patil**, joint work with K. De Turck, Koen and D. Fiems ECQT 2018
Optimal control in wireless sensor networks: a mean-field approach

PROFESSIONAL EXPERIENCE

Analyst - Business Consulting

Jul. 2014 - Oct. 2015

HSBC Data Processing Centre, Bangalore, India

Global Investigation Analytics

Model development, deployment, validation and tuning with Statistical methods.

ADDITIONAL TRAINING

Workshops

- Summer school on Numerical methods for stochastic models: mean-field, CIRM, Marseille summer 2017
- Workshop on Mathematica, Ghent university Autumn 2016

Selected Coursework

- E003700 - Game Theory with Engineering Applications Autumn 2018
- E014230 - Stochastic Processes Autumn 2017
- CS 709 - Convex Optimization Autumn 2013

SKILL SET

Programming Languages

Python, C, SQL, AMPL, R

Computational/ Utility Tools

MATLAB, Mathematica, \LaTeX

Statistical Tools

R, SAS

Platforms

Mac OS (X), Linux (Ubuntu, Fedora)

EXTRA-ACADEMIC ACTIVITIES

- Jury member of master thesis committee; Thesis entitled "The P2Pool mining pool - An analysis of a distributed cryptographically secured database". Oct. 2018
- Volunteered at master thesis fair at Ghent university to give the information on department's research domains so that students can choose their thesis topic. Feb. 2017