

Sreejita Ghosh

Curriculum Vitae

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Nationality: Indian

Current position

Since 05/2021 **Postdoc researcher**, *Bias and Fairness project*, DTU Compute and NRU of University of Copenhagen, Based mostly at: DTU Compute, Technical University of Denmark (DTU).
Richard Petersens Plads, bygning 324, 2800 Kgs. Lyngby, Denmark

Work experience

- 10/2016-01/2021 **PhD student**, *Bernoulli Institute of Mathematics, Computer Science and Artificial Intelligence*, University of Groningen, The Netherlands.
Submitted thesis titled **Intrinsically interpretable machine learning in Computer-Aided-Diagnosis**
- 03/2017-07-2020 **Student project and internship supervision**, *Bernoulli Institute, University of Groningen*, Co-supervisors: Dr. Kerstin Bunte and Prof. Michael Biehl.
- 09/2018-12/2018 **Graduate Teaching Assistant**, *Introduction to Data Science*, Bernoulli Institute, University of Groningen, Course coordinators: Dr. Kerstin Bunte and Dr. George Azzopardi.
- 12/2017-02/2017 **Graduate Teaching Assistant**, *Neural Networks and Computational Intelligence*, Bernoulli Institute, University of Groningen, Course coordinator: Prof. Michael Biehl.
- 09/2017-12/2017 **Graduate Teaching Assistant**, *Introduction to Data Science*, Bernoulli Institute, University of Groningen, Course coordinators: Dr. Kerstin Bunte and Dr. Mircea Lungu.

Education

- 10/2016-present **Successful completion of courses**, *University of Groningen*, the Netherlands.
"Introduction to Data Science", "Neural Networks and Computational Intelligence", "Course on computer clusters by CIT", "Publishing in English" and "Dutch, level A0>A1, A1>A2, A2>A2/B1"
- 09/2014-09/2016 **Master's Degree Biomedical Engineering (specialization: Diagnostic imaging and instrumentation)**, *University of Groningen*, Faculty of Science and Technology.
Thesis: - Heart Failure Severity Prediction From Medical Records
Dr. Gert-Jan de Vries (Philips Research, Eindhoven), Dr. R.J. Renken (Neuroimaging Center, Universitair Medisch Centrum Groningen) and Prof.Dr. Michael Biehl (Johann Bernoulli Institute, University of Groningen)
- 06/2010-05/2014 **Bachelor of Technology, Biomedical Engineering**, *Vellore Institute of Technology*, VIT University, India.
Thesis: Epileptic seizure prediction from EEG signals with Pattern Recognition
Adviser: Dr. Prabhav Reddy (VIT University)
- 05/2007-05/2009 **High School**, *Bhartiya Vidya Bhavan*, Kolkata, Degree: All India Senior School Certificate Examination. Final mark: 89%.
- 05/2007 **Secondary School**, *Calcutta Girls' High School*, Kolkata, Degree: Indian Certificate of Secondary Education. Final mark: 94.4%.

Administrative activities

- 10/2016-12/2017 **Organization of student colloquium and group meetings for the Intelligent systems group**, *Bernoulli Institute*, University of Groningen, The Netherlands.
- 09/2014-01/2016 **Master student representative**, *Course and curriculum committee*, MSc. Biomedical Engineering, University of Groningen, The Netherlands.

Skills

Languages	Matlab, R, Python.
Version control	Gitlab, Github.
OS	Ubuntu, Windows.
Project management	Github, Slack, Basecamp, Agile.

Professionalization activities

- 11/11/2019-22/11/2019 **Participated in Academy Zone of I am a Scientist, UK**, *Online training course of science engagement competition.*
- 14/06/2019 **Followed workshop, Storytelling**, Trained on how to communicate research to experts and non-experts, Career Perspective Series, RUG.
- 24/05/2019 **Followed workshop, Numerical Python for programmer**, CIT, RUG.
- 17/05/2019 **Followed workshop, Introduction to Python for programmers**, CIT, RUG.
- 21/03/2019 **Followed workshop, Visualization in R**, CIT, RUG.

Teaching and supervision

- 04/2020-07/2020 **Co-supervision of a BSc. Student Thesis, Analysing Asthma Remission using Probabilistic Learning Vector Quantization**, 15 ECTS, Sander de Haan, RUG.
- 04/2020-07/2020 **Co-supervision of a BSc. Student Thesis, An Analysis of Asthma Remission Using Kullback-Leibler Matrix Learning Vector Quantization**, 15 ECTS, Sjoerd Bruin, RUG.
- 12/2019-02/2020 **Co-supervision of a short programming project (B.Sc.), Visualization of an interpretable classifier**, 5 ECTS, Ethan Waterink, RUG.
- 04/2019-07/2019 **Co-supervision of an MSc. Student Internship, Asthma Data Analysis using a Probabilistic Variant of Random Forest**, 15 ECTS, Codrut-Andrei Diaconu, RUG.
- 04/2018-07/2019 **Co-supervision of an MSc. Student Internship, Bicluster and supervised analysis of PCOS and ACC patient data**, 15 ECTS, Roel W. Visser, RUG.
- 04/2018-05/2019 **Co-supervision of an MSc. Student Internship, Classifying different types of asthma using Generalized Matrix Learning Vector Quantization and Localized Generalized Matrix Learning Vector Quantization**, 15 ECTS, Mark A. Helmus, RUG.
- 12/2018-03/2019 **Co-supervision of an MSc. Student Internship, Pattern recognition for the analysis of Asthma using multiple sources of measurements**, 15 ECTS, Kyriaki-Nektaria Pantelidou, RUG.
- 2017/2018 **Teaching assistant, "Introduction to Data Science"**, for Dr. Kerstin Bunte, Dr. Mircea Lungu and Dr. George Azzopardi, RUG.
- 11/2017-01/2018 **Teaching assistant, "Neural Networks and Computational Intelligence"**, for Prof. Michael Biehl, RUG.
- 09/2015-12/2015 **Teaching assistant, "Modelling and Simulation"**, for Prof. Michael Biehl, RUG.

Conference and Workshop participation and presentation

- 20/07-24/07/2020 **Poster presentation at World Congress on Computational Intelligence 2020**, *International Joint Conference on Neural Networks (IJCNN 2020)*, Glasgow (online).
- 01/07-03/07/2020 **Presentation: 12th Mittweidaer Workshop for Computational Intelligence (oMiWoCi)**, *University of Applied Sciences, Mittweida, Germany.*
- 24/01/2020 **Poster presentation at Alice and Eve: Women in Computer Science**, *University of Twente, the Netherlands.*
- 11/09-13/09/2019 **Presentation: 11th Mittweidaer Workshop for Computational Intelligence (MiWoCi)**, *University of Applied Sciences, Mittweida, Germany.*
- 28/03-29/03/2019 **Attended: International Workshop on Intelligent Systems and Computational Intelligence (WISCI) 2019**, *Groningen, The Netherlands.*

- 25/06-27/06/2018 **Presentation: 10th Mittweidaer Workshop for Computational Intelligence (MiWoCi)**, University of Applied Sciences, Mittweida, Germany.
- 22/03-23/03/2018 **Presentation: International Workshop on Intelligent Systems and Computational Intelligence (WISCI) 2018**, Groningen, the Netherlands.
- 24/07-26/07/2017 **Presentation: 9th Mittweidaer Workshop for Computational Intelligence (MiWoCi)**, University of Applied Sciences, Mittweida, Germany.
- 23/05/2017 **Poster and oral presentations**, *Representing the Intelligent Systems group at the international advisory panel visit of the Johann Bernoulli Institute of Mathematics and Computer Science*, Groningen, the Netherlands.
- 26/04-29/04/2017 **Poster presentation at 25th European Symposium on Artificial Neural Networks**, Brugge, Belgium.
- 21/03-22/03/2017 **Poster presentation at ICT.Open 2017**, Amersfoort, the Netherlands.

Research Visit

- 28/01-02/02/2018 **Prof. Peter Tino, Prof. Wiebke Arlt, and Dr. Elizabeth S. Baranowski**, University of Birmingham, UK, Computer Science, Psychology, and Medical School collaboration, and project discussion.

Outreach

- 04/2020-present **Science communicator**, *Skype A Scientist*, Explaining interpretable ML models to school students and inspiring them towards a career in STEM.
- 11/2019 **Science writer**, *"The Physics and Mathematics in my Machine Learning Research"*, Periodiek 2019-3, Faculty of Science and Engineering, University of Groningen, the Netherlands.
https://perio.fmf.nl/archief/perio_2019-3.pdf p6-7
- 12/2019-01/2020 **Science communicator**, *I am a Mathematician, the United Kingdom*, Answered Mathematics and machine learning related questions on the forum and live chats.
<https://secrets.imamathematician.uk/questions-to/sreejitaghosh/>
- 09/2019-present **Science communicator**, *Big Data Zone, Career Zone, Stay at Home zones of I am a Scientist, United Kingdom*, Answered machine learning related questions on the forum and live chats.
<https://bigdatan19.imascientist.org.uk/questions-to/sreejitaghosh/>

Awards

- 12/06/2020 **Scientist of the Week**, *Coding Zone, I am a Scientist, UK, Stay at home edition*.
<https://coding20.imascientist.org.uk/2020/06/12/the-coding-zone-scientist-of-the-week>
- 21/03/2017 **1st place in the Health track poster competition**, *ICT.Open 2017*, Amersfoort, for poster: Computer aided diagnosis under the influence of heterogeneous data and imbalanced classes.

Journal and Conference Contributions

E.S Baranowski, **S. Ghosh**, C. HL Shackleton, A.E Taylor, B. A Hughes, L. C Gilligan, A. Utari, S. MH Faradz, A E van Herwaarden, C. H L van der Grinten, M. Biehl, T. Guran, K. Bunte, P. Tino, and W. Arlt. Steroid metabolomics: A rapid computational approach for accurate differentiation of inborn disorders of steroidogenesis. *Endocrine Abstracts*, 63, 5 2019.

E.S. Baranowski, **S. Ghosh**, C.HL Shackleton, A.E. Taylor, B.A Hughes, M. Biehl, T. Guran, K. Bunte, P. Tino, and W. Arlt. Steroid metabolomics: A powerful technique for differentiating inborn disorders of steroidogenesis. 2018. Poster presented at the 17th International Congress on Hormonal Steroids and Hormones Cancer (ICHSCH) by Elizabeth Baranowski.

R. Pauli, P. Tino, J.C. Rogers, R. Baker, R. Clanton, P. Birch, A. Brown, G. Daniel, L. Ferreira, L. Grisley, G. Kohls, S. Baumann, A. Bernhard, A. Martinelli, K. Ackermann, H. Lazaratou, F. Tsiakoulia, P. Bali, H. Oldenhof, L. Jansen, A. Smaragdi, K. Gonzalez-Madruga, M. A Gonzalez-Torres, M. Gonzalez de Artaza-Lavesa, M. Steppan, N. Vriends, A. Bigorra, R. Siklosi, **S. Ghosh**, K. Bunte, R. Dochnal, A. Hervás, C. Stadler, A. Fernandez-Rivas, G. Fairchild, A. Popma, D. Dikeos, K. Konrad, B. Herpertz-Dahlmann, C M. Freitag, P. Rotshtein, and S

A.De Brito. Positive and negative parenting in conduct disorder with high versus low levels of callous-unemotional traits. *Development and Psychopathology*, 2 2020.

S. Ghosh, P. Tino, and K. Bunte. Visualisation and knowledge discovery from interpretable models. In *Proceedings of International Joint Conference on Neural Networks*. IEEE, 2020.

S. Ghosh, E.S. Baranowski, R. van Veen, Gert-Jan de Vries, M. Biehl, W. Arlt, P. Tino, and K. Bunte. Comparison of strategies to learn from imbalanced classes for computer aided diagnosis of inborn steroidogenic disorders. In Michel Verleysen, editor, *25th European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning, ESANN 2017*, pages 199–205. Ciaco - i6doc.com, 4 2017.

Referees

Promoter, Supervisor **Prof. Dr. Michael Biehl**, *Intelligent Systems group*, Bernoulli Institute, University of Groningen, NL, email: meikelbiehl@gmail.com.
<http://www.cs.rug.nl/~biehl/>

Co-Promoter, daily Supervisor **Dr. Kerstin Bunte**, *Intelligent Systems group*, Bernoulli Institute, University of Groningen, NL, email: k.bunte@rug.nl.
<http://www.cs.rug.nl/~kbunte/>

External Supervisor **Prof. Dr. Wiebke Arlt**, *Institute of Metabolism and Systems Research, University of Birmingham, UK*, email: W.Arlt@bham.ac.uk.
<https://www.birmingham.ac.uk/staff/profiles/metabolism-systems/Arlt-Wiebke.aspx>

External Supervisor **Prof. Dr. Peter Tino**, *School of Computer Science, University of Birmingham, UK*, email: P.Tino@cs.bham.ac.uk.
<https://www.cs.bham.ac.uk/~pxt/>