

Siddharth Ramchandran

sid.rama94@gmail.com | +358-469555796

◆ fi.linkedin.com/in/sidrama

◆ github.com/SidRama

◆ bitbucket.org/SidRama94

📍 A344, Konemiehentie 2,
Computer Science Building,
02150-Espoo, Finland

PROFILE

I am a doctoral candidate in Machine Learning at Aalto University, Helsinki. My specialisation is in Probabilistic Modelling and Statistical Genetics. I have been actively involved over the past couple of years in the Computational Systems Biology research group.

I am currently working on unsupervised deep generative models for clinical data with an aim to build comprehensive models for multi-disease modelling that can analyse bio-bank data at a population-wide scale and covering data from individuals even from birth/early life until disease onset. My areas of research interest are Bayesian Statistical Analysis, Personalised Medicine and Neural Networks. I aspire to be a Research Scientist and apply probabilistic methods innovatively to address high-dimensional data challenges.

EDUCATION

M.Sc. in Machine Learning, Data Science and Artificial Intelligence Minor in Bio-informatics

Aalto University, Helsinki, Finland

July 2019

Final CGPA: 4.7 / 5.0

Graduated with honours

B.Tech. in Information Technology

VIT University, Vellore, India

2016

Final CGPA: 9.73 / 10.0

Ranked #1 in a class of 243

KEY ACCOMPLISHMENTS

★ 2019

Selected for study grant

HICT's co-funded doctoral student position

Aalto University

★ 2019

Selected for the summer school

Deep Learning and Reinforcement Learning

Summer School 2019, Edmonton, Canada

★ 2017 & 2018

Aalto School of Science Honours Student

Academic and Research excellence

Aalto University

★ 2016

Best Academic Performance in the School of Information Technology and Engineering

"Mrs. Pudukkottai S.P. Seerangammal" -

Endowment Award

VIT University

★ 2013, 2014 & 2015

Academic Excellence Merit Scholarship

VIT University

RESEARCH EXPERIENCE

Aalto University

Helsinki, Finland (September 2019 - Present)

Doctoral Candidate, Computational Systems Biology,
Dept. of Computer Science

Working on:

- ◆ Unsupervised deep generative models for clinical data

Aalto University

Helsinki, Finland (October 2016 - August 2019)

Research Assistant, Computational Systems Biology,
Dept. of Computer Science

Worked on:

- ◆ Creating an additive Gaussian process regression model for analysis of experimental data from longitudinal study designs (See publications).
- ◆ Creating a framework to analyse gene expressions using Gaussian processes to provide a personalised approach for the early detection of biomarkers in Type 1 Diabetes and other auto-immune diseases (See publications).

Indian Institute of Technology - Bombay

Mumbai, India (December 2015 - July 2016)

Research & Development Intern

Contributed to the development of a mobile-first e-commerce platform for empowering rural India (Lokacart) and to the development of a digital storyboarding and knowledge sharing platform (Lokavidya).

Indian Institute of Technology - Madras

Chennai, India (June 2015 - July 2015)

Summer Research Fellow

Assisted with an on-going project to enhance OpendTect (a seismic interpretation software) with Machine Learning abilities that minimises human errors in data entry for ONGC. Also researched on Recommender Systems and novel ranking methods by attempting the RecSys Challenge.

PUBLICATIONS

Journal papers

- ◆ **Nature Communications, Vol 10, No. 1798, (2019)**
An additive Gaussian process regression model for interpretable non-parametric analysis of longitudinal data
Cheng, L., Ramchandran, S., Vatanen, T., Lietzen, N., Lahesmaa, R., Vehtari, A. and Lähdesmäki, H.
- ◆ **International Journal of High Performance Computing and Networking, 10(1-2), pp. 109-117.**
Achieving fine-grained access control and mitigating role explosion by utilising ABE with RBAC.
Balusamy, B., Ramchandran, S. and Priya, N.

Manuscripts

- ◆ **Latent Gaussian processes with composite likelihoods for data-driven disease stratification. (in review)**
Ramchandran, S., Koskinen, M. and Lähdesmäki, H.
- ◆ **A personalised approach for identifying disease-relevant pathways in heterogeneous diseases. (in review)**
Ramchandran, S., Somani, J., Lähdesmäki, H.

Poster/Oral presentations

- ◆ **33rd Conference on Neural Information Processing Systems (NeurIPS), Machine Learning for Health Workshop (Under review)**
An unsupervised approach to identifying sub-groups in patients with Parkinson's disease.
Ramchandran, S., Koskinen, M. and Lähdesmäki, H.
- ◆ **Deep Learning and Reinforcement Learning Summer School, July 2019, Edmonton, Canada**
Latent Gaussian processes with composite likelihoods for data-driven disease stratification.
Ramchandran, S., Koskinen, M. and Lähdesmäki, H.
- ◆ **36th International Conference on Machine Learning (ICML), Workshop on Computational Biology, Long Beach, CA, USA, June 14, 2019.**
An additive Gaussian process regression model for interpretable probabilistic non-parametric analysis of longitudinal data.
Cheng L, Ramchandran S, Vatanen T, Timonen J, Lietzen N, Lahesmaa R, Vehtari A, Lähdesmäki H
- ◆ **11th annual RECOMB/ISCB Conference on Regulatory & Systems Genomics, New York, NY, USA, Dec 8 - 10, 2018.**
An additive Gaussian process regression model for interpretable probabilistic non-parametric analysis of longitudinal data.
Cheng L, Ramchandran S, Vatanen T, Timonen J, Lietzen N, Lahesmaa R, Vehtari A, Lähdesmäki H
- ◆ **AI Day, December 2018, Espoo, Finland**
Latent Gaussian processes with composite likelihoods for data-driven disease stratification.
Ramchandran, S., Koskinen, M. and Lähdesmäki, H.

RELATED COURSES & CERTIFICATION PROGRAMMES

- Machine Learning Basic Principles
- Probability and Statistics
- Algorithmic Methods of Data Mining
- Kernel Methods
- Advanced Probabilistic Methods
- Artificial Intelligence
- Neural Networks
- Complex Networks
- Completed a certification program (50 hours) conducted by TIFAC-CORE, VIT University on Big Data Analytics using Hadoop, IBM z/OS, Machine Learning and 'R' Programming.

SKILLS

Computer Languages

Python, Matlab, C, C++, Java, R, HTML, Javascript

Software Tools & Tech

TensorFlow, Theano, Android SDK, PyTorch, Open MP, MySQL, Amazon Web Services

LANGUAGE

English

Professional/Native

Malayalam

Native

French

Limited working

Hindi

Limited working

Finnish

Elementary

Chinese

Elementary