

Résumé - Arash Shahsavari

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Education

2016 - 2019 M.S. in Complex Adaptive Systems - Chalmers University of Technology

Gothenburg, Sweden Selected Coursework: Neural Networks, Stochastic Optimization, Information Theory, Dynamical Systems.

Fall 2017 Exchange Studies - Dongguk University

Seoul, South Korea Selected Coursework: Multiple View Geometry, Deep Learning.

2013 - 2016 Electrical Engineering - Lund University

Lund, Sweden Selected Coursework: Multivariable Calculus, Control Theory, Mathematical Statistics, Numerical Analysis.

Experience

2019- Bioinformatician at University of Cambridge

- Cambridge, UK
- Long-term data science work on multiple biomedical projects (60+ datasets for 20+ different projects, typically juggling 3-7 projects at a time), with multiple weekly deliverables.
 - Machine learning and statistics on terabyte-scale datasets, using a broad mix of techniques and tools.
 - Developed [R package ClustAssess](#) from scratch, which I continue to maintain.
 - Involved in entire recruitment pipeline, from designing technical skills test, to selecting candidates for interviews, interviewing and final recruitment decisions.
 - Co-authoring multiple peer-reviewed scientific publications.

2018-2019 Volunteer at Kodcentrum

- Gothenburg, Sweden
- Teaching coding to classes of ~20 children aged 10-12 from underprivileged areas.
 - Planning and structuring classes, hands-on support to children and other volunteers.
 - Long-term development of the learning platforms and curriculum.

Teaching and Mentorship

Teaching

- Developing curriculum and training materials for single-cell data analysis course in Cambridge (2022).
- Intro to Machine Learning - Lecturing for PhD students and postdocs in Cambridge (2021).
- Teaching coding to children and developing teaching materials and curriculum at Kodcentrum (2018-2019).

Mentorship

- Coached Computer Science M.Sc. student through 6-month Cambridge internship with weekly 1-on-1s. Advised and assisted the intern to contribute to open-source software and co-author scientific publication (2021). The person is now joining the group as a full-time employee.
- Onboarded 8 junior group members in Cambridge and created code, documentation, pipelines and workflows to accelerate their integration into the work environment.

Skills and Development

- **Programming Environments:** Python ([Optimization example](#)), R ([Clustering evaluation package](#), [Random Forest feature selection example](#)), Julia ([Outlier detection example](#), [Optimization example](#)), MATLAB, C++, Bash, SQL, \LaTeX , Arduino.
- **Computing Tools:** SLURM, git, Jupyter Notebook ([Example](#)), R Markdown ([Example](#)).
- **Software packages:** [ClustAssess](#) - developed from scratch, currently package maintainer [Github](#), [Example](#), [Documentation](#).
- **Scientific Publications:** [4 papers on biomedical data science](#).
- **Professional Courses:** [Python for Bioimage Analysis](#) - week-long course by the Royal Microscopical Society.
- **Self-Studied Books and Courses:** [Intermediate Linear Algebra](#), [Computational Linear Algebra](#), [Real Analysis](#), [Combinatorics & Graph Theory](#), [Reinforcement Learning](#).
- **Webpage:** [sharash.github.io](#)