Chris Salahub

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GitHub, LinkedIn, Medium

Education

- **University of Waterloo** — Waterloo, ON
  Ph.D. Statistics — *May 2019 – Present*
- **ETH Zürich (ESOP Scholar)** — Zürich, ZH
  M.Sc. Statistics, Computer Vision Specialization; Grade: 5.5 — *Sept. 2017 – Mar. 2019*
  Thesis: Seen to Be Done: A Graphical Analysis of Peremptory Challenge (Supervisor: Marloes Maathuis)
- **University of Waterloo** — Waterloo, ON
  B.Math Statistics; Average: 93% — *Sept. 2013 – June 2017*

Selected Coursework

Programming with R for Reproducible Research, Statistical Learning Theory, Data Science in TSE Systems, Advanced Topics in Computational Statistics, Applied Multivariate Statistics, Statistical Learning - Classification, Data Visualization, Forecasting, Statistical Learning - Function Estimation, Stochastic Processes, Statistical Methods for Process Improvements, Estimation and Hypothesis Testing

Skills

Computer: R (ggplot2, lme4, tm, MASS, shiny), Python (pandas, Matplotlib, NumPy, Scikit-learn, PyTorch), MATLAB, Linux/UNIX, Git, SQL, Microsoft Office, Bash, Jupyter

Methods and Algorithms: Dimension Reduction, Data Visualization, Machine Learning, Time Series, Experimental Design and Analysis, Sampling Methods, (Computational) Statistical Analysis, Statistical Learning, Text Analysis

Interpersonal: Teamwork, Public Speaking, Leadership, Teaching, Writing, Time Management

Professional Experience

- **Environics Analytics** — Toronto, ON
  Data Development Intern — *May 2017 – Aug. 2017*
  Data Extraction Extracted and processed Canadian demographic data using SQL and R.
  Algorithm Development Demonstrated the inefficiency of typical small area demographic microsimulation methods using a Markov Chain model and implemented an improved simulated annealing algorithm in both R and MATLAB.
  Research and Development Intern — *May 2016 – Aug. 2016*
  Data Science Cleaned, prepared, and analysed complex Canadian demographic data using time series, high dimensional data visualization, and standard analytic approaches such as linear models.
  Model Construction Conceived and constructed a stochastic model to solve a complex constrained network flow problem and implemented the resulting algorithm efficiently in both R and MATLAB.
  Big Data Leveraged social media text data, high volume call centre data, and demographic data to provide functional frameworks for further development.
- **University of Waterloo** — Waterloo, ON
  Undergraduate Research Assistant — *May 2015 – Aug. 2015*
  High Dimensional Computational Statistics Implemented a novel approach to determining copula parameters in the nested and non-nested Archimedean cases using approximate Bayesian computation in R.

Projects

Predicting Fracture Displacement (Zürich, 2018) Applied data visualization and classification methods in R to six years of retrospective data from Kinderspital Zurich to assist in determining the relative risk of secondary displacement of phalangeal fractures

Evaluating Cyclist Risk in Zürich (Zürich, 2018) Extracted bicycle incident data and traffic volumes from public APIs using Python, processed this data using kernel density estimation to estimate risk, and implemented an interactive application to suggest routes based on this risk

CRISPier (Waterloo, 2015) Modelled the CRISPR-Cas9 system using stochastic and differential equation models for the award-winning 2015 Waterloo iGEM team in both R and Python; developed a number of statistical tests to monitor and compare results

Publications

Christopher Salahub and R. Wayne Oldford. *About "her emails"*. Significance, 15(3):34-37, 2018.

Volunteer Experience

- **Federation of Students** — Waterloo, ON
  Off Campus Community Coordinator — *May 2016 – Apr. 2017*
  Leadership Assembled and directed a team of thirty three volunteers assisting students with the transition to university life
  Administration Planned a volunteer training weekend and the orientation programming for several hundred first year students, administered budgets, and delegated tasks