Martin Polacek – Résumé

Address 71-67 Yellowstone Blvd.
Forest Hills, 11375
New York

Mobile Phone +1 (917) 499 3517
Personal web Martin Polacek web page
https://github.com/KvitnucaZahradka/parsley
LinkedIn Martin Polacek at LinkedIn
https://www.linkedin.com/in/martin-polacek1024
Github Martin Polacek at GitHub
https://github.com/KvitnucaZahradka
arXiv Martin Polacek at arXiv
http://arxiv.org/abs/1403.6904
Email martin.polacek@stonybrook.edu

Education:

2011- Stony Brook University -YITP institute, Theoretical Physics, Ph.D. candidate

2008 - 2010 Comenius University in Bratislava - Faculty of Mathematics, Physics and Informatics, Slovakia, *summa cum laude* MSc. in Theoretical Physics

2005 - 2008 Comenius University in Bratislava - Faculty of Mathematics, Physics and Informatics, Slovakia, *summa cum laude* BSc. in Physics

Computer Skills:

- **Programming Languages**

  Python - *own implementation of advanced ML algorithms: AdaBoosted trees, Elastic nets, Kernel methods with grid search also usage of scikit-learn, Pandas and Spark.*
  R - *time series analysis using neural networks and Hyndman-Khandakar forecasting algorithm, cleaning data and ML analysis and inference.*
  C++ - *parameter space analysis of probability amplitudes in supersymmetric extension of Standard Model, numerical computation of singular type of integrals.*
  Java - *own implementation of many graph, string and NPcomplete algorithms: Dijkstra's shortest path alg., Min. Cut alg., Hamilton cycle search using SAT solvers, Simplex alg., Splay trees, etc.*
  Hadoop - *own Raspberry Pi Hadoop server made from 3 connected Raspberry Pi's.*
  SQL - *SQL and PostgreSQL databases used in my Ruby on Rails project.*
  Ruby on Rails, jekyll, html, css, shell script and javascript - *used in my Ruby on Rails project.*

- **Certificates**

  Machine Learning, Stanford University on Coursera, Andrew Ng
  Algorithms, Design and Analysis, Part 1, Part 2, Stanford University on Coursera,
  Tim Roughgarden, see:
  Martin Polacek at LinkedIn

- **Certificates:**

  Machine Learning, University of Washington on Coursera see:
  Martin Polacek at LinkedIn
  Regression (January 2016), Classification (April 2016), Clustering & Retrieval (September 2016)

  Algorithms, University of California, San Diego & Higher School of Economics on Coursera see:
  Martin Polacek at LinkedIn
  Algorithms on Graphs (July 2016), Data Structures (May 2016), Algorithms on Strings (August 2016)

  Data Science Specialisation, Johns Hopkins University on Coursera see:
  Martin Polacek at LinkedIn :
  R Programming (February 2015) , Getting and Cleaning Data (March 2015), Exploratory Data Analysis (March 2015), Reproducible Research (May 2015), Statistical Inference (May 2015), Regression Models (June 2015), Practical Machine Learning (August 2015), Data Products (October 2015), Capstone in Data Science - Yelp Data Challenge Part 5

  Introduction to HTML5 and CSS, University of Michigan on Coursera see:
  Martin Polacek at LinkedIn

Job Experience:

2016 MPI workshop, Duke University, North Carolina - *worked for the medical data startup REVON.*

2011 - 2016 Ph.D. candidate, Stony Brook University, YITP institute - *worked on various aspects of modern High Energy Physics like AdS/CFT correspondence with emphasis on future applications in physics experiments.*

2006 - 2007 Young Scientist Fellow, Solid State Physics Department
at the Comenius University in Bratislava

- **Teaching**

  2012 Teaching Assistant for Undergraduate Statistical Physics Course at the Stony Brook University
  2011 Teaching Assistant for Undergraduate Mechanics Course at the Stony Brook University
  2010 Teaching Assistant for Undergraduate Mathematical Analysis Course at the Comenius University in Bratislava

Awards:

2010 Best Master Thesis of the year 2010, category: physics

2010 The winner of the Czech - Slovak Young Scientist competition SVOC, category: physics

2005 - 2010 Scholarship for the top 5 % of students at the Comenius University in Bratislava

Academic:

- **Papers**

  T-duality off shell in 3D Type II superspace, (Martin Polacek, Warren Siegel), arXiv:1403.6904
  Natural curvature for manifest T-duality, (Martin Polacek, Warren Siegel), arXiv:1308.6350
  Pre-potential in the $AdS_5 \times S^5$ Type IIB superspace, (Martin Polacek, Warren Siegel), arXiv:1608.02036
  A study of lepton flavor violating process in Z -> ll in Minimal Supersymmetric Standard Model, (Tomas Blazek, Martin Polacek), *Master Thesis*