

# Filip Hanzely

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School of Mathematics, University Of Edinburgh  
5405 JCMB, Edinburgh, EH9 3FD  
fhanzely@gmail.com  
filiphanzely.com

- EDUCATION**
- Ph.D. Optimization and Operational Research** Sep '16 – present  
University of Edinburgh, School of Mathematics  
1<sup>st</sup> supervisor: Peter Richtárik, 2<sup>nd</sup> supervisor: Lukasz Szpruch  
Topic: Randomized algorithms for Big Data Optimization
- Bc. in Economic and Financial Mathematics,** Sep '13–June '16  
Comenius University, Bratislava, Slovakia  
Bachelor thesis: Analysis of causal relationships in reconstructed phase space
- PUBLICATIONS**
- Randomized methods for relative smooth optimization**  
*Filip Hanzely, Peter Richtárik* *In Progress*
- Testing for Causality in Reconstructed State Spaces by Optimized Mixed Prediction Method**  
*Anna Krakovská, Filip Hanzely* Physical Review E, 2016
- AWARDS**
- EPSRC CASE Award** 2016 – 2020  
highly competitive scholarship awarded by Amazon
- PMPML Travel Grant, £600** 2016  
Travel support for attending NIPS conference, Barcelona
- Academic praise** 2015  
A praise awarded by Dean of Comenius University; it is received by 2-3 students from each faculty of Comenius University each year
- Second prize** (102<sup>th</sup> place out of 324 competitors) 2014  
International Mathematics Competition, Blagoevgrad, Bulgaria
- 9<sup>th</sup> place** out of 79 competitors 2014  
Vit Jarník international mathematical competition, Ostrava, Czech republic, Category I. (First and Second year University students)
- Bronze medal** (163<sup>rd</sup> place) 2013  
International Mathematical Olympiad (IMO), Santa Marta, Colombia
- Acknowledgement** 2013 & 2012  
for successful representation of Slovakia by *Minister of Education, Science, Research and Sport of the Slovak Republic*
- 1<sup>st</sup> place** 2013  
Slovak National round of Mathematical Olympiad for High school students, Košice, Slovakia
- Bronze medal** (13<sup>th</sup> place) 2012  
Middle European Mathematical Olympiad, Solothurn, Switzerland
- CONFERENCES & WORKSHOPS**
- Challenges in optimization for machine learning** Mar '17  
A technical meeting focused on the current problems in the research in optimization for machine learning
- Neural Information Processing Systems (NIPS)** Dec '16  
Biggest conference in machine learning, Barcelona

**SCHOOLS &  
TRAINING**

**Autumn school of Algorithmic Optimisation** Sep '16  
Trier, Germany

**First year PhD courses** Sep '16 - present  
Convex Analysis and Convex Optimization (Reading course), Matrix Theory (Reading course), Modern Optimization Methods for Big Data Problems, Research Seminar on Big Data Optimization

**Mathematics of Machine Learning,** Apr'16  
One week intensive course focused mostly on Optimization taught by a guest from University of Edinburgh and held in Bratislava, Slovakia

**TALKS**

**All Hands Meeting on Big data Optimization,** Edinburgh, UK Mar'17  
Finding Approximate Local Minima for Nonconvex Optimization in Linear Time

**All Hands Meeting on Big data Optimization,** Edinburgh, UK Jan'17  
Relatively-Smooth Convex Optimization by First-Order Methods and Applications

**All Hands Meeting on Big data Optimization,** Edinburgh, UK Nov'16  
Variance reduction for faster non-convex optimization

**EXPERIENCE**

**University of Edinburgh, UK** (~30h/m) Feb – Apr '17  
*Tutor* of Engineering Mathematics (Undergraduate course) and Modern Optimization Methods for Big Data Problems (Postgraduate course)

**Slovak Academy of Sciences, Slovakia** (~30h/m) Jul – Aug '15, Feb – Jun '16  
*Research Assistant:* examining the methods of causality detection in reconstructed phase space and designing the new method; continued as my Bachelor thesis.

**FinViz, Slovakia** (~70h/m) Oct '14–June '15  
*Part-time C# developer:* building automatic detector of stock chart patterns, backtesting the strategies based on the patterns.

**Trojsten NGO, Slovakia** (~30h/m) May '13–Aug '16  
*Volunteer educator, manager:* Co-organize competitions and camps (9 one week camps, approx. 35 participants) for talented high school students in mathematics in Slovakia and Czech republic. Gave approx. 45 lectures on different topics, proposed approx. 80 problems and marked 560 solutions. In 2014 and 2015 I was one of 3 leading organizers of math division of Trojsten (approx. 30 volunteers in the division).

**Slovak Mathematical Olympiad** Dec '13–Jun '16  
*Coordinator* of regional (3 times, approx. 90 solutions marked), national round (2 times, approx 80 solutions marked) and team selection camp (3 times, approx. 60 solutions marked).  
*Lecturer* at preparation camp for IMO and MEMO (5 times 3,5 hour lecture for 12 students).

**Tatra Banka, Slovakia** (~70h/m) Jun '14–Oct '14  
*VBA developer:*, building Excel macros in order to simplify the routine at the project management department.

**Gymnázium J. Hronca, Slovakia** (~8h/m) Sep '13–Jun '14  
*Teacher:* preparing talented high school students for Mathematical Olympiad (approx. 8 students).

**SKILLS**

**Languages:** Slovak (native), English (fluent)  
**Computer skills** MatLab, Julia, Python, C++/C, R, L<sup>A</sup>T<sub>E</sub>X(expert), VBA