David Toth

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Education

2014 – 2017   **University of Leeds, Department of Pure Mathematics – Computability Theory,**
PhD thesis: *The automorphism group of the hyperenumeration degrees,*
supervisor: Professor Barry Cooper

2010 – 2014   **Imperial College London – Computing** (MEng Artificial Intelligence, 2.1)
Machine Learning, AI, Automated Reasoning, Knowledge Representation, Argumentation
and Multi-agent Systems, Modal and Temporal Logic, Type Systems, Algebraic Topology,
Manifolds, Operations Research, Computational Techniques, Complex Systems, Statistics,
Software Design, Algorithms, Concurrency, Systems Verification, Models of Computation,
Hardware, Databases, Networks, Operating Systems, Compilers
Programming – Assembly, Haskell, Java, C/C++, Prolog, Perl
Master thesis: *Classification of systems of Inductive Logic Programing*, supervisor: Dr. Broda

2009 – 2010   **Coventry University – Mathematics and Computing (**CertHE, distinction**)**
Problem Solving, Professional Skills, Software Systems Fundamentals
Computer Systems and Networking (CISCO)
Microsoft Office – Word, Excel, PowerPoint
Programming – Java, Matlab

2006 – 2009   **Grammar School**, Vranov nad Topľou, Slovakia
Final exams in Mathematics (A), Informatics (A), English (A) and Slovak (A).

09/2013   **Graduate Record Examinations,** Verbal Reasoning 150 (44th percentile),
Quantitative Reasoning 168 (96th), Analytical Writing 4.0 (54th)

Publications

Imparo is complete by inverse subsumption.
David Toth. 2014. http://arxiv.org/abs/1407.3836
An Experiment with Asymmetric Algorithm: CPU Vs. GPU
Sujatha R. Upadhyaya and David Toth , DASFAA '12, 17th International Conference on Database
Systems for Advanced Applications (Semantic & Decision Support Systems), 15-18 April 2012,
Busan, South Korea, Volume 7239, 2012, pp 272-281, Lecture Notes in Computer Science,
Springer http://link.springer.com/chapter/10.1007%2F978-3-642-29035-0_21

Work Experience

09/2014 –   **Teaching assistant**, University of Leeds, UK
Autumn 2014   Tutor – Math1050 Mathematical Analysis and Calculus
Autumn 2014   Marker – Math2080 Further Linear Algebra

06/2014 – 09/2014   **Data Scientist Intern, Pact Coffee**, London, UK
Developed an algorithm for recommending new coffees with no user feedback based on
their intrinsic properties.

09/2013 – 09/2013   **Intern, Machine Intelligence Research Institute**, Berkeley, California
Background research on *probabilistic logic* and arithmetical hierarchies. Developed
Donortools Extractor for internal workflow automation.

04/2013 – 09/2013   **Forward Deployed Engineer Intern, Palantir Technologies**, Palo Alto,
California – an internship in a data analysis company.
Developed *Document Similarity Search* plugin for the Palantir Government platform with an
integrated security layer for ElasticSearch server – https, Palantir internal authentication
enpoint and access control list.

06/2012 – 09/2012   **Forward Deployed Engineer Intern, Palantir Technologies**, Palo Alto.
Developed a Java plugin *HTML-Exporter for Maps* exporting tiles, Palantir objects, KML
objects, layers and other map data from the Palantir Government platform to a html file.
Worked with the code base (>100k lines) in a 2 member team. The project driven by the

clients - government institutions, intelligence agencies, et al. Internal reviews positive.

07/2011 – 09/2011 **Instep Research Intern, Infosys Labs**, Bangalore, India – a highly selective internship for the students from the world's top universities.

Researched the *optimization of parallel algorithms* and analysed asymmetric workload distribution. Implemented a home-grown sequence *data mining* algorithm on Nvidia(CUDA) graphic cards. Developed auxiliary tools including a statistical sequence generator.

06/2011 **Teaching Assistant for Mathematics**, Elthorne Park High School, London

Teaching and helping 10 -14 years old pupils.

07/2010 **Camp Coordinator**

Working with children with learning disabilities from socially disadvantaged backgrounds.

05/2009 – 09/2009 **Au pair**, United Kingdom

Looked after three children at ages 2, 4, 7. Filled their time with innovative games, prepared for school. Tackled complex behaviour.

2006 - 2009 **Private tutor**, Slovakia

Teaching Mathematics, Chemistry, programming lessons. Students obtained *excellent* marks.

2005 – 2009 **Lector**, a local church, Slovakia

IT skills

Algorithms and data structures	Programming Competitions (at national level), P, NP; ADTs
Software engineering	Agile, Design patterns, Git, SVN, Confluence, Gerrit
Major languages	C / C++, Java, Go
Minor languages	Assembly, Awk, Bash, Basic, Haskell, Matlab, Pascal, Perl, Prolog, Python, Ruby
Web development	CSS, HTML, JavaScript, PHP, MySQL, AJAX, jQuery, CGI
Networking	Apache, CISCO, Linux
Additional skills	Nvidia CUDA, Flex, Bison, ElasticSearch, Gradle, Spring

Activities

Programming

ReasonJ – an Eclipse plugin verifying the correctness of a program specified in logic.

Kindle Collection Maker – produces collections file based on hierarchical filesystem structure.

Personality detector – detects one of the 8 main personalities based on the user's mouse movements.

Talking to computer – analyses user's responses to particular sentences and replies back accordingly.

Learn Irregular Verbs – used in my primary school by English teachers.

A walk through the Universe – a Pascal-based gaming simulator.

The Universe – for 2 players, a laser-enabled cosmic ring has to shoot at the antagonist.

Strieľačky – shoot a 2d object with a pistol, a machine gun or a grenade.

Architecture – a trivial designing game where a user can build a 2d house.

Music Creator – enables an elaborative music composition for system speakers.

Compression tool – compresses data based on Huffman coding and language paradigms.

Tagib – an AI program learning functions based on input and output inspired by a *Turing* machine.

DrSolomon – an educational social network.

Tagib Quatrain – an open database of personal quatrains.

Learn English Vocabulary – learn vocabulary efficiently based on statistical models of memory.

Electronics

A *Light Telephone* transmitting signals through the infra-red diodes. A *Solar Power-Plant* from the cut transistors(no solar panels) and capacitors of 20mF. A *Crystal Radio* – no electricity required.

Literature

A 1st place twice in *Europe at School*, a literature competition. Wrote collections of poetry and short stories in both Slovak and English. Eg. *Our Depths*

http://tothchat.com/poetry/our_depths.html

Drama

1997-2005	Didero (Theatre of Fairy Tales for Children), drama club. National competitions.
2006-2007	Čhave Kamoro, dancing theatre, performed in Slovakia, Poland, The Czech Republic.