

Alexei Zamyatin

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WORK EXPERIENCE

Imperial College London

Research Assistant (Centre for Cryptocurrency Research and Engineering)

- Research blockchain security, interoperability and decentralized exchanges
- Lead the Blockchain.com research program at Imperial College

London, United Kingdom

Sept 2017 – Present

Intern (Cryptocurrency Research)

- Identified queueing-related vulnerabilities in an Ethereum mining pool, derived exploits, observed real-world attacks and proposed mitigations

Jul 2016 – Sept 2016

SBA Research

Researcher (Decentralized Systems Group)

- Research security, scalability and sustainability of Proof-of-Work blockchains

Vienna, Austria

Oct 2016 – Present

Intern (IT Security)

- Highlighted centralization issues in Bitcoin, Litecoin and merge-mined cryptocurrencies
- Implemented a generic data extraction tool for Bitcoin-like blockchains

Jul 2016 – Sept 2016

Accenture

Intern (Technology Consulting)

- Developed the technical architecture and release planning concepts, and the Java prototype for the largest public sector project in Austria
- Helped test and develop the Xtext DSL for automatic code generation in public sector projects and held workshops for new junior developers

Vienna, Austria

Feb. 2016 – Jun. 2016

United Nations Office in Vienna (UNOV)

Conference Assistant (Short-term contracts)

- Conference registration and meeting support.

Vienna, Austria

Oct 2012 – Jan 2017

TEACHING

Imperial College London

Teaching Assistant

- *Principles of Distributed Ledgers (CO 467)*, taught by Arthur Gervais (Spring' 18, Spring'19)

London, United Kingdom

Jan 2018 - Mar 2018

Technische Universität Wien

Teaching Assistant

- *Advanced Software Engineering*, taught by Stefan Biffl (Fall '15, Summer '16, Fall '16)
- *Requirements Engineering and Specification*, taught by Paul Grünbacher (Fall '15)
- *Software Engineering and Project Management*, taught by Stefan Biffl (Fall '14, Summer '15)

Vienna, Austria

Oct 2015 - Feb 2017

EDUCATION

Imperial College London

PhD in Computing Science

- Advised by William Knottenbelt and Arthur Gervais. Funded by Blockchain.com
- Thesis topic: "The Quest for Scalable and Trustless Cross-Chain Communication"

London, United Kingdom

Sept 2017 – Present

Technische Universität Wien

MSc Software Engineering and Internet Computing – 1.26/5.0 (1.0 best grade)

- MSc Thesis "Merged Mining: Analysis of Effects and Applications"

Vienna, Austria

Oct 2015 – Nov 2017

Technische Universität Wien

BSc Software and Information Engineering – 1.9/5.0 (1.0 best grade)

- BSc Thesis "Name-Squatting in Namecoin"

Vienna, Austria

Oct 2012 – Oct 2015

AWARDS AND SCHOLARSHIPS

"KUWI" Research Fellowship - Technische Universität Wien

Scholarship for international research projects and stays abroad

Vienna, Austria

Jan 2017

Merit Scholarship - Technische Universität Wien

Scholarship for outstanding academic performance

Vienna, Austria

Oct 2016

High Potential Program - Technische Universität Wien

Accepted into the industry-focused High Potential Program (TuTheTop)

Vienna, Austria

Oct 2015 – Jun 2016

Merit Scholarship - Technische Universität Wien

Scholarship for outstanding academic performance

Vienna, Austria

Oct 2015

PUBLICATIONS

- Sam Werner, Paul Pritz, **Alexei Zamyatin**, William J. Knottenbelt. Uncle Traps: Harvesting Rewards in a Queue-based Ethereum Mining Pool. *12th EAI International Conference on Performance Evaluation Methodologies and Tools (VALUETOOLS)*. ACM (2019)
- Nicholas Stifter, Philipp Schindler, Aljosha Judmayer, **Alexei Zamyatin**, Andreas Kern, and Edgar Weippl. Echoes of the Past: Recovering Blockchain Metrics From Merged Mining. *23rd International Conference on Financial Cryptography and Data Security (FC)*. Springer (2019)
- Alexei Zamyatin**, Dominik Harz, Joshua Lind, Panayiotis Panayiotou, Arthur Gervais and William J. Knottenbelt. Multisignatures for Cryptocurrency-Backed Tokens (Poster). *2nd International Workshop on Cryptocurrencies and Blockchain Technology (CBT'18)*. 2018
- Iain Stewart, Dragos Ilie, **Alexei Zamyatin**, Sam Werner, Maryam F. Torshizi, and William J. Knottenbelt. (2018). Committing to Quantum Resistance: A Slow Defence for Bitcoin Against a Fast Quantum Computing Attack. *Royal Society open science*, 5(6), 180410. 2018
- Alexei Zamyatin**, Nicholas Stifter, Aljosha Judmayer, Philipp Schindler, Edgar Weippl, and William J. Knottenbelt. A wild velvet fork appears! Inclusive blockchain protocol changes in practice (Short Paper). *In 5th Workshop on Bitcoin and Blockchain Research, Financial Cryptography and Data Security (Vol. 18)*. 2018
- Aljosha Judmayer, **Alexei Zamyatin**, Nicholas Stifter, Artemios G Voyiatzis, and Edgar Weippl. Merged Mining: Curse or Cure?. *In Data Privacy Management, Cryptocurrencies and Blockchain Technology (pp. 316-333)*. Springer, Cham., 2017
- Alexei Zamyatin**, Katinka Wolter, Sam Werner, Catherine E.A. Mulligan, Peter G. Harrison, and William J. Knottenbelt. Swimming with Fishes and Sharks: Beneath the Surface of Queue-based Ethereum Mining Pools. *25th Annual Meeting of the IEEE International Symposium on Modelling, Analysis and Simulation of Computer and Telecommunication Systems*. IEEE, 2017
- Aljosha Judmayer, **Alexei Zamyatin**, Nicholas Stifter, and Edgar Weippl. Bitcoin-Cryptocurrencies and Alternative Applications. *ERCIM News 110, Special theme: Blockchain Engineering*. 2017

PRE-PRINTS

- Alexei Zamyatin**, Dominik Harz, Joshua Lind, Panayiotis Panayiotou, Arthur Gervais and William J. Knottenbelt. XCLAIM: Decentralized, Interoperable, Cryptocurrency-backed Assets. *Cryptology ePrint Archive: Report 2018/643*. 2018
- Nicholas Stifter, Aljosha Judmayer, Philipp Schindler, **Alexei Zamyatin**, and Edgar Weippl. Agreement with Satoshi- On the Formalization of Nakamoto Consensus. *Cryptology ePrint Archive: Report 2018/400*. 2018
- Alexei Zamyatin**, Nicholas Stifter, Philipp Schindler, Edgar Weippl, and William J. Knottenbelt. Flux: Revisiting Near Blocks for Proof-of-Work Blockchains. *Cryptology ePrint Archive: Report 2018/415*. 2018

SKILLS AND INTERESTS

Languages: German (Native), Russian (Native), English (Fluent), French (Basic)

Programming Skills: Proficient in Java, Python, Javascript (AngularJS); Experience with C, Solidity and Xtext.

Other Technical Skills: Spring, Maven, Gradle, Docker, Vagrant, (PL/pg)SQL, JPA (Hibernate), SPARQL, Git, L^AT_EX, Excel

Certifications: IELTS Academic (8.5/9), 2018; European Business Competence* License (EBC*L), 2010

EXTRACURRICULAR INTERESTS AND VOLUNTEERING

- Main organizer of ChainHack24.org hackathon with Blockchain.com, Outlier Ventures, Ocean, Haja and Sovrin
- Organiser of the London blockchain PhD meetup with KCL, UCL, Imperial and Cambridge
- Lead the blockchain live monitoring and data collection project at Imperial College (to go live soon)
- Help maintain p2preview.github.io, a curated online bibliography of blockchain related papers

EXTRACURRICULAR INTERESTS AND VOLUNTEERING

Tennis player (Imperial College Team) and skier, recently started scuba diving

Astronomy; Geopolitics and history