Polyachenko **Yury**

INTERN FOR EPFL E3 SUMMER PROGRAM

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Education

Moscow Institute of Physics and Technology (State University) *Moscow, Russia*

B.S. IN APPLIED PHYSICS AND MATHEMATICS, SPECIALIZED IN COMPUTATIONAL PHYSICS *Sep. 2017 - Present*

- **Specialization:** Basics of computational physics of condensed matter, Molecular dynamics, Practice of HPC, Machine learning in physics of condensed matter
- **Mathematics:** Real analysis and Calculus, Differential geometry, Harmonic analysis, Complex Analysis, Analytic geometry, Linear algebra, Differential Equations, Computational Mathematics.
- **Physics:** General Physics (Mechanics, Thermodynamics and Molecular Physics, Electricity and Magnetism, Physical Optics), Theoretical Mechanics, Field Theory, Quantum Mechanics, Mathematical Physics.
- **Computer Science:** C/C++, Introduction to UNIX-based systems and multithreading, Introduction to parallel computations via MPI and CUDA.
- **GPA 4.01/4.3, top 3% of the course.**

Experience

Joint Institute for High Temperatures of the Russian Academy of Sciences (JIHT RAS), *Moscow, Russia*
Laboratory of non-ideal plasma theory

LABORATORY ASSISTANT *Sep. 2018 - Present*

- Investigated behaviour of the L-J system near the boiling points via space-time correlators. Delivered a report at the MIPT conference. 2019. Academic advisor - Norman G.E.
- Studied self-diffusion in Lennard-Jones systems using classical MD implemented in LAMMPS. Delivered a report on the obtained results at the MIPT conference. 2018. Academic advisors - Timofeev A.V. and Norman G.E.
- Created from scratch a MD simulation engine (C/C++, CUDA, OpenMP, Python, Matlab). 2018.

Moscow Institute of Physics and Technology (State University) (MIPT), *Moscow, Russia*
Department of Computer Science

ASSISTANT TEACHER *Sep. 2019 - Dec. 2019*

- Worked as a mentor and assistant teacher on the python CS course for freshmen.
- Helped to design new Python exercises for an updated python CS course.

Moscow Institute of Physics and Technology (State University) (MIPT), *Moscow, Russia*
Laboratory of Mechanical Systems and Processes Modeling

INTERN *Aug. 2018 - Oct. 2018*

- Modelled elastic wave propagation using ray tracing (Matlab, C/C++, OpenMP).

Extracurricular Activity

B10S (B1t 0n the Security, Underground hacker team) *S.Korea*

CORE MEMBER *Nov. 2011 - PRESENT*

- Gained expertise in penetration testing areas, especially targeted on web application and software.
- Participated on a lot of hacking competition and won a good award.
- Held several hacking competitions non-profit, just for fun.

WiseGuys (Hacking & Security research group) *S.Korea*

MEMBER *Jun. 2012 - PRESENT*

- Gained expertise in hardware hacking areas from penetration testing on several devices including wireless router, smartphone, CCTV and set-top box.
- Trained wannabe hacker about hacking technique from basic to advanced and ethics for white hackers by hosting annual Hacking Camp.

PoApper (Developers' Network of POSTECH) *Pohang, S.Korea*

CORE MEMBER & PRESIDENT AT 2013 *Jun. 2010 - Jun. 2017*

- Reformed the society focusing on software engineering and building network on and off campus.
- Proposed various marketing and network activities to raise awareness.

PLUS (Laboratory for UNIX Security in POSTECH)   *Pohang, S.Korea*

MEMBER   *Sep. 2010 - Oct. 2011*

- Gained expertise in hacking & security areas, especially about internal of operating system based on UNIX and several exploit techniques.
- Participated on several hacking competition and won a good award.
- Conducted periodic security checks on overall IT system as a member of POSTECH CERT.
- Conducted penetration testing commissioned by national agency and corporation.

MSSA (Management Strategy Club of POSTECH)   *Pohang, S.Korea*

MEMBER   *Sep. 2013 - Jun. 2017*

- Gained knowledge about several business field like Management, Strategy, Financial and marketing from group study.
- Gained expertise in business strategy areas and inisght for various industry from weekly industry analysis session.

Honors & Awards

INTERNATIONAL

2018	**Finalist**, DEFCON 26th CTF Hacking Competition World Final	*Las Vegas, U.S.A*
2017	**Finalist**, DEFCON 25th CTF Hacking Competition World Final	*Las Vegas, U.S.A*
2014	**Finalist**, DEFCON 22nd CTF Hacking Competition World Final	*Las Vegas, U.S.A*
2013	**Finalist**, DEFCON 21st CTF Hacking Competition World Final	*Las Vegas, U.S.A*
2011	**Finalist**, DEFCON 19th CTF Hacking Competition World Final	*Las Vegas, U.S.A*
2012	**6th Place**, SECUINSIDE Hacking Competition World Final	*Seoul, S.Korea*

DOMESTIC

2015	**3rd Place**, WITHCON Hacking Competition Final	*Seoul, S.Korea*
2017	**Silver Prize**, KISA HDCON Hacking Competition Final	*Seoul, S.Korea*
2013	**Silver Prize**, KISA HDCON Hacking Competition Final	*Seoul, S.Korea*
2013	**2nd Award**, HUST Hacking Festival	*S.Korea*
2010	**3rd Award**, HUST Hacking Festival	*S.Korea*
2012	**3rd Award**, Holyshield 3rd Hacking Festival	*S.Korea*
2011	**2nd Award**, Holyshield 3rd Hacking Festival	*S.Korea*
2011	**5th Place**, PADOCON Hacking Competition Final	*Seoul, S.Korea*

Skills

DevOps	AWS, Docker, Kubernetes, Rancher, Vagrant, Packer, Terraform, Jenkins, CircleCI
Back-end	Koa, Express, Django, REST API
Front-end	Hugo, Redux, React, HTML5, LESS, SASS
Programming	Node.js, Python, JAVA, OCaml, LaTeX
Languages	Korean, English, Japanese