

Ayrat Khalimov

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Research Interests

Reactive synthesis, bounded synthesis via SMT, parameterized synthesis and verification

Education

January 2012 – present	PhD	Graz University of Technology, Austria
July 2007 – July 2009	Master	Moscow Institute of Physics and Technology, Russia
September 2003 – July 2007	Bachelor	Moscow Institute of Physics and Technology, Russia

Professional Experience

Apr 2011 – Sep 2011	Intern	Dependable Systems Lab, EPFL, Switzerland
March 2009 – Dec 2010	C# developer	Consult Invest, Moscow, Russia
Aug 2007 – Aug 2008	C++ developer	CellTroy Technologies, Moscow, Russia
Aug 2006 – Aug 2007	Java developer	Institute of Precision Mechanics, Moscow, Russia

Community Service

- Reviewer for CAV'12, FMCAD'12, CAV'13, FMCAD'13, FoSSaCS'13, Acta'14, CAV'15, CONCUR'15, CAV'16, AAMAS'16, IPL'16, VMCAI'17
- Co-organizer of RiSE workshop <http://arise.or.at/rise-workshop-2016/>

Teaching

- Co-lecturing semester course “Selected Topics in Design and Verification” in 2013–2017.
- Co-tutoring semester course “Verification and Testing” in 2013–2016.

Software

All the tools are available at <https://github.com/5nizza/>

- PARTY: synthesizer from LTL and CTL*
- SDF: synthesizer from AIGER format

Publications

Ayrat Khalimov and Roderick Bloem. Bounded synthesis for streett, rabin, and ctl^* . In *Computer Aided Verification - 29th International Conference, CAV 2017, Heidelberg, Germany, July 24-28, 2017, Proceedings, Part II*, pages 333–352, 2017.

Roderick Bloem, Swen Jacobs, Ayrat Khalimov, Igor Konnov, Sasha Rubin, Helmut Veith, and Josef Widder. Decidability in parameterized verification. *SIGACT News*, 47(2):53–64, 2016.

Simon Außerlechner, Swen Jacobs, and Ayrat Khalimov. Tight cutoffs for guarded protocols with fairness. In *Verification, Model Checking, and Abstract Interpretation - 17th International Conference, VMCAI 2016, St. Petersburg, FL, USA, January 17-19, 2016. Proceedings*, pages 476–494, 2016.

Roderick Bloem, Swen Jacobs, Ayrat Khalimov, Igor Konnov, Sasha Rubin, Helmut Veith, and Josef Widder. *Decidability of Parameterized Verification*. Synthesis Lectures on Distributed Computing Theory. Morgan & Claypool Publishers, 2015.

Ayrat Khalimov. Specification format for reactive synthesis problems. In *Proceedings Fourth Workshop on Synthesis, SYNT 2015, San Francisco, CA, USA, 18th July 2015.*, pages 112–119, 2015.

Benjamin Aminof, Swen Jacobs, Ayrat Khalimov, and Sasha Rubin. Parameterized model checking of token-passing systems. In *Verification, Model Checking, and Abstract Interpretation - 15th International Conference, VMCAI 2014, San Diego, CA, USA, January 19-21, 2014, Proceedings*, pages 262–281, 2014.

Roderick Bloem, Swen Jacobs, and Ayrat Khalimov. Parameterized synthesis case study: AMBA AHB. In *Proceedings 3rd Workshop on Synthesis, SYNT 2014, Vienna, Austria, July 23-24, 2014.*, pages 68–83, 2014.

Ayrat Khalimov, Swen Jacobs, and Roderick Bloem. PARTY parameterized synthesis of token rings. In *Computer Aided Verification - 25th International Conference, CAV 2013, Saint Petersburg, Russia, July 13-19, 2013. Proceedings*, pages 928–933, 2013.

Ayrat Khalimov, Swen Jacobs, and Roderick Bloem. Towards efficient parameterized synthesis. In *Verification, Model Checking, and Abstract Interpretation, 14th International Conference, VMCAI 2013, Rome, Italy, January 20-22, 2013. Proceedings*, pages 108–127, 2013.