JANA HOFMANN

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PROFESSIONAL EXPERIENCE

Microsoft Research *Since 09/2022*
Postdoctoral researcher in the Confidential Computing team
Working on formal models for the detection of microarchitectural side channels

CISPA Helmholtz Center for Information Security *07/2020 - 08/2022*
Research Assistant
Working on formal specification languages for hyperproperties

Saarland University *06/2018 - 06/2020*
Research Assistant
Working on formal specification languages for hyperproperties

EDUCATION

Saarland University *2018 - 2022*
Dr. rer. nat. (Ph.D.) with summa cum laude, Supervisor: Prof. Bernd Finkbeiner, Ph.D.
Thesis Title: Logical Methods for the Hierarchy of Hyperlogics

Saarbrücken Graduate School of Computer Science *2017 - 2022*
Ph.D. programme (including perparatory phase)

University of Edinburgh *2016 - 2017*
M.Sc. Computer Science with Distinction
Thesis Title: Undecidability of Weak Bisimulation Equivalence in Unary One-Counter Petri Nets

Saarland University *2013 - 2016*
B.Sc. Computer Science
Thesis Title: Verified Algorithms for Context-Free Grammars in Coq

PUBLICATIONS

N. Coenen, B. Finkbeiner, J. H., J. Tillman, Smart Contract Synthesis Modulo Hyperproperties, to appear at the *36th IEEE Computer Security Foundations Symposium (CSF 2023)*.

R. Beutner, D. Carral, B. Finkbeiner, J. H., M. Krötzsch, Deciding Hyperproperties Combined with Functional Specifications, *37th Annual ACM/IEEE Symposium on Logic in Computer Science (LICS 2022)*.

J. Virtema, J. H., B. Finkbeiner, J. Kontinen, F. Yang, Linear-time Temporal Logic with Team Semantics: Expressivity and Complexity, *41st IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS 2021)*.

N. Coenen, B. Finkbeiner, C. Hahn, J. H., Y. Schillo, Runtime Enforcement of Hyperproperties, *19th International Symposium on Automated Technology for Verification and Analysis (ATVA 2021)*.

N. Coenen, Finkbeiner B., C. Hahn, J. H., The Hierarchy of Hyperlogics: A Knowledge Reasoning Perspective, *17th International Conference on Principles of Knowledge Representation and Reasoning, Recently Published Research Track (KR 2020)*. Recording of presentation: https://www.youtube.com/watch?v=6RvgBaWC374

Finkbeiner B., C. Hahn, J. H., Tentrup L., Realizing Omega-regular Hyperproperties, *32nd International Conference on Computer-Aided Verification (CAV 2020)*.

N. Coenen, Finkbeiner B., C. Hahn, J. H., The Hierarchy of Hyperlogics, *34th Annual ACM/IEEE Symposium on Logic in Computer Science (LICS 2019)*.

TEACHING

Programming 1, teaching assistant — *Winter 2020/21*
Basic course for first-year computer science students, approx. 600 participants
Verification, teaching assistant, core course — *Winter 2019/20*
Software Reliability, advisor, proseminar — *Summer 2019*
Hyperproperties, teaching assistant and advisor, seminar — *Winter 2018/19*

Theoretical Computer Science, student TA, basic course — *Summer 2017*
Informatics 1 - Functional Programming, student TA, basic course — *Winter 2016/17*
Concurrent Programming, student TA, basic course — *Summer 2016*
Programming 1, student TA, basic course — *Winter 2014/15, Winter 2015/16*
Teaching videos (in German): https://www.youtube.com/channel/UCVAodHZqVrgCeUrvDQgMijw

STUDENT SUPERVISION

Janine Lohse, Bachelor project — *2022*
Thesis title: Model Checking Temporal Stream Logic and Hyper-Temporal Stream Logic

Yannick Schillo, various student projects — *2020 - 2022*
Topics: Tools for hyperproperty enforcement, synthesis of Android apps from TSL

Frederik Scherer, Bachelor project, continued as student project — *2021*
Thesis title: Monitoring Smart Contracts with RTLola

Julia Tillman, Bachelor project, continued as research project — *2020*
Thesis title: Temporal Stream Logic for Hyperproperties

Matthias Cosler, Bachelor project, continued as student project — *2019*
Thesis title: Towards Synthesizing Smart Contracts: Reducing ATL* Synthesis to HyperLTL Synthesis

SERVICE, MENTORING, AND HONORARY TEACHING

PC Member for ICTAC'23, Artifact Evaluation of CAV'22

Reviewer for LICS'22, TACAS'21, MFCS'21, ATVA'21, CONCUR'21, CAV'21, LICS'21, CONCUR'20, KR'20, ICALP'20, TACAS'20, CSL'20, ATVA'19, Acta Informatica

MentoMint Mentor — *2018, 2019*
Mentoring for female high school students interested in STEM subjects

Mathematics Precourse — *2015 - 2018*
Four week course for new computer science students, member of a team of voluntary students
Development of a new concept and execution as organiser, lecturer and coach

Didactic Seminar for Student TAs — *2015, 2016*
Organisation an execution of three-day course on teaching for new student TAs

AWARDS AND SCHOLARSHIPS

Busy Beaver Award — *2021*
As part of the 'Programming 1 2020/21' team
Awarded by the computer science student council for outstanding teaching performance

Cusanuswerk Ph.D. Scholarship — *01/2018 - 06/2018*
Financial and academic sponsoring financed by Federal Ministry of Education and Research Germany

Departmental Ph.D. Scholarship — *09/2017 - 01/2018*
Awarded by the Graduate School of Computer Science at Saarland University

BeStE Award *2017*
As part of the 'Mathematics Precourse' team
Awarded by the presidential board of Saarland University for student initiatives and extraordinary commitment

Claire Jones Prize *2017*
Awarded by University of Edinburgh for best performing female student in M.Sc. Computer Science

Cusanuswerk Student Scholarship *2014 - 2016*
Financial and academic sponsoring financed by Federal Ministry of Education and Research Germany

Member of Bachelor Honors Program *2014 - 2016*
Program for talented Bachelor students in Computer Science at Saarland University

Abitur Mathematics Award *2013*
Awarded by Ministry of Education of North Rhine-Westphalia

LANGUAGES

German Native
English Fluent
French Conversational