

Frederik Jakob Gossen

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Date of birth: 5th February 1992 ♦ Nationality: German

EDUCATION

- PhD Candidate in Software** 09/15 – ongoing
Seeking a Joint Degree from the **University of Limerick** (Ireland) and the **TU Dortmund University** (Germany)
Research Interests: Algebraic Decision Diagrams, Model Checking, Code Generation, Decision Trees.
Member of Lero - The Irish Software Research Centre
- 59 ETCS-Credits** towards a Master Degree in Computer Science (Avg. Grade: 1.0, ≈A) 01/15 – 09/15
TU Dortmund University, Germany
Selected courses: Knowledge Discovery in Databases, Sublinear Algorithms, Randomized Algorithms
- Bachelor Degree with Distinction** in Computer Science (1.0, ETCS Grade A) 10/11 – 11/14
TU Dortmund University, Germany
Supported with the prestigious Scholarship of Germany
- Study Abroad** (Avg. Grade A) 08/13 – 12/13
University of Pennsylvania, United States
Selected courses: Introduction to Artificial Intelligence, Computational Linguistics, Programming Paradigms
- STRESS 2014, 2016** (Int. School on Tool-based Rigorous Engineering of Software Sys.), Greece 10/14, 10/16
Associated with the Int. Sym. on Leveraging Applications of Formal Methods (ISoLA)
- ICVSS 2016** (International Computer Vision Summer School), Italy 07/16
An overview and in-depth analysis of the state-of-the-art research in Computer Vision
- ECML PKDD 2015** (Principles and Practice of Knowledge Discovery in Databases), Portugal 09/15
Summer School on Data Sciences for Big Data - Resource Aware Data Mining

PUBLICATIONS

- F. Gossen, T. Margaria, “Generating Optimal Decision Functions from Systems of Rules”, ECEASST, 2017, (in Review).
- F. Gossen, J. Neubauer, B. Steffen, “Securing C/C++ Applications with a SEcubeTM-based Model-Driven Approach”, in Design & Technology of Integrated Systems in Nanoscale Era (DTIS), 12th International Conference on, 2017.
- F. Gossen, T. Margaria, “Comprehensible People Recognition using the Kinect’s Face and Skeleton Model”, in Automation, Quality and Testing, Robotics (AQTR), IEEE International Conference on, 2016.
- F. Gossen, T. Margaria, T. Göke, “Modelling the People Recognition Pipeline in Access Control Systems”, in Trudy ISP RAN/Proc. ISP RAS, Vol. 28, Issue 2, 2016.
- F. Gossen, “Bayesian Recognition of Human Identities from Continuous Visual Features for Safe and Secure Access in Healthcare Environments”, in Design & Technology of Integrated Systems in Nanoscale Era (DTIS), 10th International Conference on, 2015.
- F. Gossen, “Feedback-Based Recognition of Human Identities Using Color and Depth Data” in Leveraging Applications of Formal Methods, Verification and Validation. Specialized Techniques and Applications Part II, 6th International Symposium (ISoLA), 2014.

RECENT PROJECTS

ADD-Lib, a CUDD¹-based Java Library for Generalized Algebraic Decision Diagrams 09/17 – ongoing
The framework allows to lift arbitrary algebraic structures to decision diagrams. It will soon be open-sourced.

MiAamics, a compiler for systems of rules 01/16 – ongoing
For a given rule-based description of decision functions, the tool generates an optimal implementation based on Algebraic Decision Diagrams. It generates code in a variety of general purpose programming languages including Java, JavaScript, C#, C and C++.

AcSense, a self-learning admission control system 09/15 – 08/17
Based on visual data acquired from the Microsoft Kinect 2 sensor, the system learns peoples' visual appearances over time and eventually grants access already when individuals approach the sensor.

PRIVATE PROJECTS

Backgammon AI Tournament, a framework to develop and evaluate Backgammon AIs 09/17 – ongoing

Android Receiver & Shake, a framework to use Android phone's sensors for remote control 12/13 – ongoing
The Android application *Shake* sends sensor data to Java applications in real time and allows multiple players to connect at the same time. [<http://shake.frederikgossen.com/>]

SELECTED PRIZES

1st Place Lero Annual Doctoral Symposium 2016, Ireland 09/16
A rule-based approach to compile and rapidly evaluate ensembles of decision trees.

1st Place Reading Group ICVSS 2016, Italy 08/16
Out of 5 groups in the reading group competition we won by analyzing the reference graph of computer vision literature to find influential works in the field.

1st Place Google Android Camp 2013, United Kingdom 08/13
In a team of 4 students, we developed and presented within one week the emergency app *Pocket Paramedic* that allows for training first aid situations on Android phones and tablets.

EXPERIENCE

go_on Software GmbH, Germany 12/17 – 02/18
Side job as Web Developer
Customization of a shop system to comply to German law and other requirements.
Technologies: WooCommerce, WordPress, PHP.

SysTeam GmbH Dortmund, Germany 01/15 – 07/15
Continuation of Bachelor Thesis Project
Recognition of Human Identities from Visual Features using the Microsoft Kinect 2
Feature Extraction and Recognition using Statistical Classifiers
Technologies: Kinect 2 SDK, C#, C++

SysTeam GmbH Dortmund, Germany 05/14 – 10/14
Bachelor Thesis: *Feedback-based Recognition of Human Identities using Color and Depth Data*

Softwire Software Company, United Kingdom 02/14 – 03/14
Internship as Software Developer for the BBC's event website
Changes include API, content management system and front end
Technologies: Java, Spring, JSP, PHP, JavaScript, jQuery

University of Potsdam, Germany 03/13 – 07/13
Teaching assistant in *Formal Methods of System Design*

TU Dortmund University, Germany 09/12 – 02/13
Teaching assistant in *Mathematics for Computer Scientists I*

¹ CU Decision Diagram Package: <http://vlsi.colorado.edu/~fabio/>

go_on Software GmbH , Germany Side job as Web Developer for different customers Technologies: WordPress, PHP, JavaScript, jQuery	09/11 – 08/12
go_on Software GmbH , Germany Experience in web development on a project to publish ferries' schedules for the river Rhine Development of WordPress templates and plugins [http://www.fahren-rhein.de]	06/11 – 08/11
go_on Software GmbH , Germany Experience in web development with different customers	01/09 – 05/11