

# ORESTIS MELKONIAN

## PERSONAL DATA

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PLACE | DATE OF BIRTH: Athens | 3 December 1992  
EMAIL: [melkon.or@gmail.com](mailto:melkon.or@gmail.com)  
WEBSITE: [omelkonian.github.io](http://omelkonian.github.io)

## EDUCATION

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SEPT 2017 - JUL 2019 M.Sc. in COMPUTING SCIENCE  
**Utrecht University**, The Netherlands  
*Current GPA: 8.95/10*  
*Specialization: Programming Technology*  
*Supervisors: Wouter Swierstra (UU), Manuel Chakravarty (IOHK)*  
*Thesis: Formal Investigation of the Extended UTxO Model in Agda*

OCT 2010 - APR 2016 B.Sc. in COMPUTER SCIENCE  
**National and Kapodistrian University of Athens**, Greece  
*GPA: 8.6/10*  
*Specializations: Knowledge and Data Management, Software*  
*Supervisors: Panos Rondogiannis, Angelos Charalambidis*  
*Thesis: RHEA - A Reactive, Heterogeneous, Extensible and Abstract Framework for Dataflow Programming*

FEB 2014 - Jul 2014 Erasmus exchange student in COMPUTER SCIENCE  
**Universita della Svizzera Italiana**, Lugano, Switzerland  
*Coordinators: Ioannis Emiris, Marc Langheinrich*

## WORK EXPERIENCE

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JAN 2019 - JUL 2019 Haskell Developer (part-time)  
**QBayLogic**, Enschede, The Netherlands  
*Implementing a GUI to inspect optimization steps in the Clash compiler*  
*Supervisor: Christiaan Baaij*

DEC 2017 - DEC 2018 Haskell Developer (part-time)  
**Utrecht University**, The Netherlands  
*FORMALZ: A tower-defence game for learning Hoare-style specifications*  
*Developed the SMT-based checker between teacher and student formulas*  
*Supervisor: Wishnu Prasetya*

JUN 2017 - AUG 2017 Research Intern  
**Max Planck Institute for Software Systems (MPI-SWS)**  
Kaiserslautern, Germany  
Software Analysis & Verification Group  
*Proof mechanization of a novel C/C++11 memory model in Coq*  
*Supervisor: Viktor Vafeiadis*

MAY 2016 - MAY 2017 Technical Intern (*Backend Web Developer*)  
**CERN**, Geneva, Switzerland  
*INVENIO project: Image auto-tagging for the Cern Document Server (CDS)*  
*Supervisor: Ludmila Marian*

OCT 2015 - APR 2016 Research Intern  
**National Center for Scientific Research "Demokritos"**, Athens, Greece  
Software & Knowledge Engineering Laboratory (SKEL)  
*Design and implementation of a dataflow framework for robotics*  
*Supervisor: Angelos Charalambidis*

## RESEARCH INTERESTS

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- Functional Programming
- Programming Languages, Semantics
- Type Systems, Formal Semantics
- Verification, Formal Methods
- Compilers, Static Analysis
- Category Theory
- Proof Theory, Theorem Provers
- Algorithmic Music

## PUBLICATIONS

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- ICSE'19 **Having Fun in Learning Formal Specifications** [\[paper\]](#)  
Wishnu Prasetya, Craig Leek, Melkonian Orestis *et al.*  
*Proceedings of the 41th International Conference on Software Engineering: Software Engineering Education and Training. ACM, 2019*
- REBLS @ SPLASH'18 **RHEA: A Reactive, Heterogeneous, Extensible and Abstract Framework for Dataflow Programming** [\[paper\]](#)  
Melkonian Orestis, Charalambidis Angelos  
*Proceedings of the 5th ACM SIGPLAN International Workshop on Reactive and Event-Based Languages and Systems. ACM, 2018*
- ESSLI'18 **D<sup>3</sup> as a 2-MCFL** [\[paper\]](#)  
Kogkalidis Konstantinos, Melkonian Orestis  
*Student Session Proceedings of the 30th European Summer School in Logic, Language and Information. Springer, 2018*

## AWARDS

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- JUNE 2019 Travel Grant  
**ZuriHac: A 3-day Haskell Hackathon**, Zurich, Switzerland
- APR 2019 Travel Grant  
**School and Workshop on Univalent Mathematics**, Birmingham, UK
- AUG 2018 Registration Grant  
**European Summer School on Logic, Language & Information (ESSLI)**  
Sofia, Bulgaria
- JUL 2018 Travel Grant  
**DeepSpec Summer School**, Princeton, US
- JUL 2017 Travel Grant  
**CAV Conference**, Heidelberg, Germany
- JAN 2016 Student Travel Grant  
**Programming Language Mentoring Workshop (PLMW)**  
POPL Conference, Florida, US
- MAR 2016 Student Travel Grant  
**Meddays '16**, Sophia-Antipolis, France

## TALKS

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- NOV 2018 **RHEA: A Framework for Dataflow Programming**  
REBLS@SPLASH '18, Boston, USA
- AUG 2018 **D<sup>3</sup> as a 2-MCFL**  
ESSLI '18, Sofia, Bulgaria
- DEC 2015 **A Streamful of Robots**  
NCSR "Demokritos", Athens, Greece
- DEC 2015 **A Dataflow Approach to Robot Programming**  
13th PL Seminar IEEE, Softlab, Athens, Greece

## ACADEMIC PROJECTS

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COMPILERS	<b>Adding impredicative types to the Glasgow Haskell Compiler (GHC)</b> <i>Technologies:</i> Haskell, GHC, Type Checker
COMPUTER MUSIC	<b>AlgoRhythm</b> A Haskell library for algorithmic music composition <i>Technologies:</i> Haskell, Euterpea, Formal Grammars, Chaos Theory
META PROGRAMMING	<b>MWS</b> Framework for generating full-stack CRUD web apps <i>Technologies:</i> Scala, scala.meta, Play, Coffeescript, AngularJS
EMBEDDED DSL	<b>Racketlog</b> Prolog implementation embedded in Racket <i>Technologies:</i> Racket, Dr.Racket, Macros
COMPILERS	<b>MiniJava</b> A complete compiler for a pure subset of Java <i>Technologies:</i> Java, JavaCUP, JavaJTB, Visitor Pattern, IRIS Datalog
PROGRAMMING LANGUAGES	<b>LCI</b> An interpreter for the $\lambda$ -Calculus <i>Technologies:</i> C++, Recursive Descent Parsing
PARALLEL SYSTEMS	<b>Distributed image convolution using 3 different frameworks</b> <i>Technologies:</i> MPI, OpenMP, CUDA

## LANGUAGES

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GREEK:	Native speaker
ENGLISH:	<b>Fluent</b> , <i>Certificate of Proficiency, University of Michigan</i>
GERMAN:	<b>Intermediate</b> , <i>Zertifikat B1, Goethe Institute</i>
FRENCH:	<b>Beginner</b> , <i>A2.1, Supercomm Suisse SA</i>

## EXTRA-CURRICULAR ACTIVITIES

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<b>Musical Instrument:</b>	Electric jazz guitar (Intermediate) <b>RGT Grade 6</b> ( <i>distinction</i> ) <i>UWLQ Level 3 Certificate in Music Performance</i> University of West London <i>Examiner:</i> Adam Moore BA(Hons), MMus, PGCE, FLCM
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(Algorithmic) Music Composition, Films, Philosophy, Literature, Traveling

## REFERENCES

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<b>Wouter Swierstra</b> Utrecht University ✉ <a href="mailto:w.s.swierstra@uu.nl">w.s.swierstra@uu.nl</a>	<b>Viktor Vafeiadis</b> MPI-SWS ✉ <a href="mailto:viktor@mpi-sws.org">viktor@mpi-sws.org</a>	<b>Alejandro Serrano Mena</b> Utrecht University ✉ <a href="mailto:a.serranomena@uu.nl">a.serranomena@uu.nl</a>
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