

Orestis MELKONIAN

PERSONAL DATA

PLACE AND DATE OF BIRTH: Athens | 3 December 1992
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EDUCATION

OCT 2010 - APR 2016 B.Sc. in COMPUTER SCIENCE
Department of Informatics and Telecommunications
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 [[pdf](#), [git](#)]

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

WORK EXPERIENCE

JUN 2017 - AUG 2017 Research Internship
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 Internship (*Backend Web Developer*)
CERN, Geneva, Switzerland
INVENIO project: *Image auto-tagging for the Cern Document Server (CDS)*

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

RESEARCH INTERESTS

- Functional Programming
- Programming Languages, Semantics
- Verification, Formal Methods
- Meta-programming
- Distributed Computing, Parallelism
- Artificial Intelligence
- Logic Programming
- Evolutionary Computing
- Deep Learning
- Constraint Satisfaction

AWARDS

JAN 2016 Student Travel Grant
POPL '16
Florida, US
MAR 2016 Student Travel Grant
Meddays '16
Sophia-Antipolis, France

TALKS

DEC 2015 A Streamful of Robots
NCSR, Athens, Greece

DEC 2015 A Dataflow Approach to Robot
Programming
**13th Programming Language
Seminar, IEEE**, Athens, Greece

TECHNICAL SKILLS

Languages:	C/C++, Java, Python, Prolog, Datalog, Haskell, Scala, Matlab, Racket, Bash
Version Control:	Git, SVN
Web:	Flask, Celery, Javascript, Coffeescript, AngularJS, HTML5 + CSS, Yesod
Concurrency:	PThreads, MPI, OpenMP, Cuda, Rx, Hazelcast
Databases:	SQL, MySQL, PostgreSQL, SQLite
Frameworks:	OpenGL, JavaCC, JavaJTB, AIMA Python, Eclipse CLP, ROS, scala.meta
Testing:	jUnit, QuickCheck, pytest, specs2
IDEs:	IntelliJ, PyCharm, Eclipse, Visual Studio, CoqIDE
Build:	GNU make, Maven, Gradle, Pip, Cabal
Typesetting:	L ^A T _E X, Microsoft Office, UML

ACADEMIC PROJECTS

DATAFLOW PROGRAMMING	RHEA A Reactive, Heterogeneous, Extensible and Abstract Framework for Dataflow Programming <i>Technologies:</i> Java, Scala, Rx, Hazelcast, Ros
META PROGRAMMING	MWS Framework for generating full-stack CRUD web apps <i>Technologies:</i> Scala, scala.meta, Play, Coffeescript, AngularJS
EMBEDDED DSL	Racketlog Prolog implementation embedded in Racket <i>Technologies:</i> Racket, Dr.Racket, Macros
WEB SOFTWARE DEVELOPMENT	Impero! A massive-multiplayer online turn-based strategy game <i>Contributions:</i> Random map generation, Gameplay logic, Client visualization <i>Technologies:</i> Agile Programming, SCRUM, Java, Javascript, MongoDB, REST, Create.js
PROGRAMMING LANGUAGES	LCI An interpreter for the λ -Calculus <i>Technologies:</i> C++, Recursive Descent Parsing
LARGE SOFTWARE DEVELOPMENT	SNAP Social Network Analysis Project Previous topic for ACM-SIGMOD programming contest <i>Technologies:</i> C++, GNUplot, Large CSV Datasets
PATTERN RECOGNITION OCR	A morphological approach to text extraction from periodically repeated backgrounds [paper] <i>Technologies:</i> C++, ImagXpress7, Borland C++ Builder
COMPILERS	MiniJava A complete compiler for a pure subset of Java <i>Technologies:</i> Java, JavaCUP, JavaJTB, Visitor Pattern, IRIS Datalog
PARALLEL SYSTEMS	Distributed image convolution using 3 different frameworks <i>Technologies:</i> MPI, OpenMP, CUDA
MACHINE LEARNING	Airplane classification from black-white images <i>Technologies:</i> Matlab, k-NN classifier, Euclidean classifier
LOGIC PROGRAMMING	A personal archive of Prolog programs <i>Technologies:</i> SWI-Prolog, Eclipse Prolog
SYSTEMS PROGRAMMING	A multi-threaded server that extracts a secret word from an oracle <i>Technologies:</i> C/C++, Pthreads, Signals, Sockets, Bloom Filters
COMPUTER GRAPHICS	Interstellar A 3-D game for asteroid avoidance <i>Technologies:</i> C/C++, OpenGL, Adobe Photoshop
COMPUTATIONAL GEOMETRY	A GUI app of the sweep algorithm for line and parabolas intersection <i>Technologies:</i> Java, JFrame, Self-balancing trees
MUSIC EDUCATION	A software suite to aid music learning, provide test simulations, etc... <i>Technologies:</i> C/C++, HTML/CSS, Javascript, Web Audio API

For more details (code, documentation) check my [website](#)

LANGUAGES

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

EXTRA-CURRICULAR ACTIVITIES

Music Instrument: Electric jazz guitar (Intermediate)
RGT Grade 6 (*distinction*)
UWLQ Level 3 Certificate in Music Performance(Grade 6), University of West London
Examiner: Adam Moore BA(Hons), MMus, PGCE, FLCM

Guitar Lessons, (Algorithmic) Music Composition, Films, Philosophy, Literature, Traveling