

# Orestis MELKONIAN

## PERSONAL DATA

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PLACE AND DATE OF BIRTH: Athens | 3 December 1992  
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WEBPAGE: [orestismelkonian.bitbucket.org](http://orestismelkonian.bitbucket.org)

## EDUCATION

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OCT 2010 - Present    B.Sc. in COMPUTER SCIENCE  
**Department of Informatics and Telecommunications**  
University of Athens, Greece  
*Specializations:* Knowledge and Data Management, Software  
*Current GPA:* 8.6/10  
*Graduation:* March 2017 (expected)

FEBRUARY 2014 - July 2014    Erasmus exchange student in COMPUTER SCIENCE  
**Faculty of Informatics**  
Universita della Svizzera Italiana, Lugano, Switzerland  
*Coordinators:* Mr. Ioannis Emiris, Mr. Marc Langheinrich

## WORK EXPERIENCE

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OCT 2015 - Present    Research Internship  
**National Center for Scientific Research "Demokritos"**, Athens, Greece  
Software & Knowledge Engineering Laboratory (SKEL)  
*Design and implementation of a dataflow domain-specific language for robotics programming, integrated with ROS*

## TECHNICAL SKILLS

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**Programming Languages:** C/C++, Java, Python, Prolog, Datalog, Haskell, Scala, Matlab  
**Scripting:** Bash, sed, awk, AutoHotkey, \*Perl, \*Ruby  
**Version Control Systems:** Git, SVN  
**Web Development:** Javascript, jQuery, \*AngularJS, HTML5 + CSS, Bootstrap, Ajax  
**Concurrency:** PThreads, System-V, MPI, OpenMP, Cuda  
**Databases:** SQL, MySQL, MySQL Workbench, \*MongoDB  
**Frameworks:** OpenGL, JavaCC, JavaJTB, jUnit, AIMA Python, ECLiPSe CLP, ROS  
**IDEs:** Eclipse, Visual Studio, IntelliJ, DevC++, Borland C++ Builder  
**Build Automation:** GNU make, \*Cmake, Maven, Gradle, \*Ant  
**Operating Systems:** Linux, Windows, \*OSX  
**Typesetting:**  $\LaTeX$ , Microsoft Office, LibreOffice, UML

\* : BEGINNER

## RESEARCH INTERESTS

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- Artificial Intelligence
- Machine Learning
- Evolutionary Computing
- Distributed Computing, Parallelism
- Big Data, Query Optimization
- Virtualization Technologies
- Logic & Functional Programming
- Programming Languages, Semantics

## ACADEMIC PROJECTS

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WEB SOFTWARE DEVELOPMENT	<b>Impero!</b> 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	<b>LCI</b> An interpreter for the $\lambda$ -Calculus <i>Technologies:</i> C++, Recursive Descent Parsing
LARGE SOFTWARE DEVELOPMENT	<b>SNAP</b> 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 [ <a href="#">paper</a> ] <i>Technologies:</i> C++, ImagXpress7, Borland C++ Builder
COMPILERS	<b>MiniJava</b> 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
ARTIFICIAL INTELLIGENCE	A collection of solutions to famous AI problems <i>Technologies:</i> Python, AIMA Python, Tk/Tcl
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	<b>Interstellar</b> A 3-D game for asteroid avoidance <i>Technologies:</i> C/C++, OpenGL, Adobe Photoshop
COMPUTATIONAL GEOMETRY	A GUI app of the <b>sweep</b> 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 [webpage](#)

## LANGUAGES

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GREEK: Native speaker  
ENGLISH: Fluent  
*Certificate of Proficiency, University of Michigan*  
GERMAN: Basic  
*Zertifikat B1, Goethe Institute*

## EXTRA-CURRICULAR ACTIVITIES

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**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