

João Pedro Maia Rafael

CONTACT INFORMATION

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RESEARCH INTERESTS

Parallel and distributed programming including lockless data structures, compiler theory, event-based and task-based languages and automatic code analysis.

Machine learning and data mining, mainly design and implementation of supervised and unsupervised algorithms.

EDUCATION

University of Coimbra

M.S., Informatics Engineering,

September 2013

- Final ECTS weighted average: 17.79 (20 scale)
 - Artificial Intelligence (grade 18)
 - Systems Integration (grade 18)
 - Pattern Recognition (grade 17)
 - Software Engineering (grade 17)
- Thesis: *A programming language for parallel event-driven development*
 - Development of novel programming language with deadlock-free semantics and constructs for event-based processing and parallel computation.
 - Grade 20

B.S., Informatics Engineering,

July 2011

- Final ECTS weighted average: 16.93 (20 scale)
 - Compilers (grade 20)
 - Advanced Programming Laboratory (grade 20)
 - Computer Technology (grade 19)
 - Data Structures and Algorithms (grade 18)

Nuno Alvares High School

High School Degree,

June 2008

- Graduation Score: 17.84 (20 scale)

ACADEMIC APPOINTMENTS

Researcher

June 2011 to June 2013

Department of Informatics Engineering, University of Coimbra

- Center for Informatics and Systems of the University of Coimbra
 - *Aeminium: Freeing Programmers from the Shackles of Sequenciality*
 - Grant: CMU-PT/SE/0038/2008
 - Supervisor (PI): Professor Bruno Miguel Brás Cabral
- Analysis and compilation of sequential Java applications to the *Aeminium* run-time.

PROFESSIONAL EXPERIENCE	Feedzai, Inc.	Feb 2014 - Current
	Implementation and Improvement of Data Science Tools and Algorithms (ETL, Machine Learning, Visualization).	
	University of Texas at Austin	July 2012
	Five week summer internship at the Applied Computation and Engineering Services department under the UT Austin Portugal project.	
SERVICE	Elected M.S., Informatics Engineering student representative at FCTUC Pedagogy Committee (October 2011 to present)	
AWARDS	University of Coimbra <ul style="list-style-type: none"> • 3% Best Students Award in the year 2010/2011. • 3% Best Students Award in the year 2009/2010. Southwestern Europe Regional Contest (ACM-ICPC) <ul style="list-style-type: none"> • Honorable mention at the 2010 SWERC programming competition. Inter-University Programming Marathon (ACM-ICPC) <ul style="list-style-type: none"> • 2nd place at the 2012 MIUP programming contest. • 6th place at the 2011 MIUP programming contest. • 5th place at the 2010 MIUP programming contest. 	
HARDWARE AND SOFTWARE SKILLS	Programming Languages: <ul style="list-style-type: none"> • Fluent in: C, C++, Python, Java, Scala, JavaScript • Knowledgeable in: PHP, Assembly, Perl, and others Information/Internet Technology: <ul style="list-style-type: none"> • Networking - UDP, TCP, RPC, 0MQ • Data - MySQL, CouchDB, Memcached, Redis • Services - Apache, BIND, DHCPD, JBoss, Tomcat • Frontend - HTML5, CSS3, jQuery • Frameworks - Django, node.js, express • Version Control - Git 	

EXPERTISE

Mathematics:

- Applied Mathematics, Real and Complex Analysis, Geometry and Linear Algebra
- Game Theory, Graph Theory and Linear Programming
- Combinatorics, Statistics and Stochastic Processes

Computer Science and Engineering:

- Programming Languages and Compiler Theory
- Algorithmics, Complexity Analysis, Optimization and Data Structures
- Distributed Systems, Scalability and High-Performance Computing
- Signal Processing, Information Theory and Filter design
- Networking and Cryptography
- Artificial Intelligence

PROJECTS

PJavaC

A procedural Java to low-level C transcompiler developed for the B.S., Informatics Engineering's *Compilers* course. Written in ANSI C with lex and yacc.

Photon Mapper

A raytracer with photon mapping developed for the B.S., Informatics Engineering's *Computer Graphics* course. Developed in C++ with OpenMP.

LANGUAGES

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken Interaction	Spoken Production	
Portuguese	C2	C2	C2	C2	C2
English	C2	C2	C2	C2	C1

Language proficiency assessment according to [CEFR](#).

HOBBIES

Travelling · CouchSurfing · R/C models · Cooking

REFERENCES

AVAILABLE FOR CONTACT

Dr. Bruno Cabral (e-mail: bcabral@dei.uc.pt; phone: +351-239-790-013)

- Professor, Department of Informatics Engineering, University of Coimbra

◊ Departamento de Engenharia Informática

Pólo II - Pinhal de Marrocos

3030 - 290 Coimbra

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★ *Dr. Cabral was my research and master's thesis supervisor.*