

# Adrian Garcia Garcia

## Curriculum vitae

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### Description

I am a highly curious and passion driven individual that is always looking to grow as a professional and as a person. My dream job offers interesting technical challenges that are faced through teamwork and where the software we create actually makes a difference. Specially interested in diving into the Machine Learning and Security fields.

### Education

- 2017–2021 **PhD in Computer Science Engineering**, Complutense University of Madrid, cum laude mention Thesis manuscript.
- 2016–2018 **Master's Degree in Computer Science Engineering**, Complutense University of Madrid, GPA: 8.9 Academic Report.
- 2011–2016 **Bachelor's Degree in Computer Science Engineering**, Complutense University of Madrid, GPA: 7.82 Academic Report.

### Employment history

- Mar'22–Now **Backend Software Developer**, MonetDB Solutions, Amsterdam.
- Detected memory leaks by benchmarking our columnar database with industry standard TPC-H.
  - Compared performance versus other DBMS like Postgres, MySQL, sqlite3 or Clickhouse, rewriting SQL queries to adapt to different syntaxes.
  - Assessed the overhead of different DBMS when running on top of docker, configuring automatic testing and deployment (docker-compose).
- Apr'18–Dec'21 **PhD scholarship (UCM)**, Department of Computer Architecture and Automatics, Madrid.
- Improved the interaction between the operating system (Linux) and emergent architectures through scheduling and cache partitioning.
  - Proposed an open-source simulator that seeks the optimal cache partitioning solution leveraging an ad-hoc B&B algorithm and pandas/ipyparallel/sklearn.
- Oct'17–Oct'18 **System Administrator**, UCM: Department of Computer Architecture and Automatics, Madrid.
- Installed and configured Linux systems, maintaining the physical and virtualized infrastructure (kvm).
  - Provided support through ticket system and responded to security incidents.
- Nov'16–Jun'17 **Collaboration fellowship by Spanish MECD (DACYA)**, Analyzed runtime metrics with pandas and explored visualizations with matplotlib in Jupyter Notebooks. Also employed WEKA to assess methods of estimating the Slowdown that threads suffer from sharing the system..
- Apr'16–Aug'16 **Internship in Software Development**, SATEC, Madrid.
- Help to build a web application for the government car management system. Developing in C# (.NET MVC), Razor and jQuery UI.

### Research articles

- Garcia-Garcia, et al.: "Contention-Aware Fair Scheduling for Asymmetric Single-ISA Multicore Systems". IEEE Transactions on Computers. Index **JCR Q1**(2018).
- Presented this article in the ICCP 2019 that took place in Kyoto: Garcia-Garcia, A. et al.: "LFOC: A Lightweight Fairness-Oriented Cache Clustering Policy for Commodity Multicores". **Ranked Class II** in GII-GRIN-SCIE (2018)
- Garcia-Garcia, et al. "PBBCache: An open-source parallel simulator for rapid prototyping and evaluation of cache-partitioning and cache-clustering policies". Journal of Computational Science, Index **JCR Q1** (2020).

### Achievements

- Dec., 2021 **Awarded cum laude mention in my PhD presentation.**
- June, 2016 **Graduated with special mention in the Final Project of my Bachelor's Degree.**
- 2011–2016 **Subjects passed with honors on the Bachelor's Degree in Computer Science Engineering.**  
Operating Systems, Advanced Operating Systems and Networks, Computer Architecture, Linux and Android Internals, Computer Networks Security, Mobile and multicore parallel programming, Databases and Evaluation of Computer Systems

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## Additional information

- 12-30-1993 **Spanish, Native.**
- Sept. 2016 **English, Level: C1.**
- o Cambridge certificates:
    - [First Certificate in English](#) (FCE), Madrid, April 2012.
    - [Certificate in Advanced English](#) (CAE), Madrid, September 2016.
- Nov. 2016 **Big Data: analysis with python, Complutense University of Madrid.**  
Continuous formation course of the UCM on web scraping from Twitter and different file formats and data manipulation using python libraries: numpy, matplotlib and pandas. [Certificate](#).

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## Other skills

### Programming languages.

- o **Python:** scikit-learn, pandas, numpy, matplotlib, ipyparallel.
- o **Big Data:** Spark, Map Reduce, Hadoop File System.
- o **Machine Learning** ([python implementations](#)):
  - Classification tree (ID3).
  - Complete Index (data compression: variable-bytes, elias-gamma or elias-delta).
  - Vectorial Index.
  - Naive Bayes.
- o **C/C++:** Kernel modules (drivers/scheduling), OpenGL, OpenMP/MPI, Sockets.
- o **Java:** Android app development ([TheFridge](#)), Hibernate, JSP, Maven.
- o **Web:** PHP, C# ASP.NET MVC (Razor), JavaScript (jQuery), CSS (Bootstrap).
- o **Functional Programming:** Erlang, Maude.

### Other technologies.

- o **Databases:** SQL, MongoDB, Neo4J.
- o **Network management and virtualization**
  - Persistent network configuration IPv4/IPv6 (*vtys*).
  - Virtual machine management in servers with kvm (*virsh* y *virt-manager*).
  - Docker.
- o **Security**
  - Penetration testing and tools (metasploit/JTR/hping3/nmap).
  - Firewall (iptables), network analysis (wireshark) and IDS (snort).