

# George Z. Zachos

M.Eng. Student in Computer Science & Engineering

## General Information

Military Service:  
Pending

## Contact

gzzachos@gmail.com

## Website

gzachos.com

## Social Links

LinkedIn

GitHub

## Languages

Greek: Native  
English: C2 (2010)

Last updated:

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## Education

2013-2021 M.Eng. in Computer Science and Engineering University of Ioannina  
Master of Engineering program at the Computer Science & Engineering Department (CSED), School of Engineering, University of Ioannina (UOI).  
Thesis title: "Synchronization in OpenMP for manycore systems" [WIP]  
Advisor: Vassilios V. Dimakopoulos

## Work Experience

10/2013-02/2016 Computer and Network Technician CSED, University of Ioannina  
The Computer Systems Support Group provides assistant work in the management of departmental computing resources, develops software applications for departmental use & aids in the operation of educational computer laboratories. (In the last two months I conducted my internship)

## Research Groups

02/2015-Present Parallel Processing Group (PPG) CSED, University of Ioannina  
PPG's main research interests lie in the area of parallel and distributed systems. For more information visit: [paragroup.cse.uoi.gr](http://paragroup.cse.uoi.gr)  
I am also the lead system administrator of PPG since 2016.

## Projects

09/2017-08/2018 PRACE-5IP National Infrastructures for Research & Technology (GRNET)  
I participated as a parallel programming instructor in the first year of operation of the Partnership for Advanced Computing in Europe (PRACE) Training Centre (PTC) established by GRNET.

## Teaching Assistance

2016-2021 Systems Programming (core undergraduate) CSED, University of Ioannina  
The C programming language and POSIX systems programming using C.  
Semesters: Fall 2016, 2017, 2018, 2019, 2020 (remote due to COVID-19)

## Programming Skills

- General-purpose programming: C, Java SE, Python
- Shells: Bash, Bourne Shell
- Parallel programming: POSIX threads, OpenMP, MPI
- Systems programming: GNU/Linux
- GPIO library: WiringPi (for Raspberry Pi)
- Scientific computing: GNU Octave
- Other tools: Portable Hardware Locality (hwloc)

I am also familiar with MIPS Assembly, C++, Haskell, JavaFX, JUnit and Apache Lucene.

## Computing Skills

- Backup Tool: Attic
- Databases: Round Robin Database (RRDtool)
- Hypervisors: VirtualBox, VMware ESXi, VMware Workstation
- Operating Systems: GNU/Linux (*Debian-based distributions*)
- Packet Analyzer: Wireshark
- Server Administration: Debian, Raspberry Pi OS, CentOS
- Single Board Computer: Raspberry Pi
- Version Control System: Git, Gitolite (Git Repository Hosting)

## Software Projects

- 06/2016-Present **OMPI compiler** Parallel Processing Group, CSED, UOI  
An open source OpenMP compiler and runtime system for C.  
A major contribution of mine was the implementation of hardware topology detection and of thread affinity policies according to the OpenMP specification. For more information visit: [cse.uoi.gr/~ompi](http://cse.uoi.gr/~ompi)
- 02/2018-02/2021 **MARS Stack Visualizer** CSED, University of Ioannina  
A tool for MIPS Assembler and Runtime Simulator (MARS) that allows real time visualization of stack segment modification operations.  
Thesis topic provided by Aris Efthymiou; conducted as a side project.  
For more information visit: [gzachos.com/mars-stack-visualizer](http://gzachos.com/mars-stack-visualizer)
- 16-20/04/2016 **Implementation of FSS policy in MINIX** CSED, University of Ioannina  
During the Operating Systems course, I extended the system kernel of MINIX 3.2.0 to support the fair-share scheduling (FSS) policy.
- 01/2015-02/2016 **Aeolus Logger** Computer Systems Support Group, CSED, UOI  
This project is about the implementation of a logging system and its integration with Emerson cooling units, so that it can be used to monitor the environmental conditions of the cluster room in CSE Department.

## Repositories

- Backup-script [*BASH*] - [gzachos.com/backup-script](http://gzachos.com/backup-script)
  - A shell script that backups the directories specified in the configuration section and manages old backup files.
- Door-monitor [*C*] - [gzachos.com/door-monitor](http://gzachos.com/door-monitor)
  - Door status monitoring and email notification system using Raspberry Pi.
- Nla-course-uoι [*C, Octave*] - [gzachos.com/nla-course-uoι](http://gzachos.com/nla-course-uoι)
  - Implementation of the Cholesky decomposition, Steepest Descent and Conjugate Gradients methods for solving linear systems.
- Compilers-course-uoι [*Python*] - [gzachos.com/compilers-course-uoι](http://gzachos.com/compilers-course-uoι)
  - A compiler implementation for a minimal programming language that has borrowed its characteristics from C and Pascal, targeting the MIPS32 ISA.
- Cgis-course-uoι [*C++*] - [gzachos.com/cgis-course-uoι](http://gzachos.com/cgis-course-uoι)
  - OpenGL application for polygon drawing, coloring, clipping and 3D extrusion.

For a full list of my publicly available repositories visit my GitHub profile.

## Honors and Awards

- |            |  |   |
|------------|--|---|
| 21/10/2016 | <b>Recognition Award</b>   | CSED, University of Ioannina                |
|            | The Dean of the Department of Computer Science and Engineering awarded me for my contribution to the Computer Systems Support Group. |   |
| 19/11/2015 | <b>Contribution Award</b>  | Greek Free and Open Source Software Society |
|            | Awarded for the localization of Elgg social networking engine.   |   |

## Seminars

### PARTICIPATED AS A SPEAKER

- |      |   |          |
|------|---|----------|
| 2014 | University of Ioannina IEEE Student Branch                              | Ioannina |
|      | Participated in two seminars covering various GNU/Linux-related topics. |          |

## Organizations

6/2014-Present Greek Free and Open Source Software Society (GFOSS)