

# Christos Petridis

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## Education

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Sep 2019 – Ongoing    **University of Thessaly**, Volos, Greece  
B.Sc. & M.Eng. 300-ECTS Diploma (5-year degree) in  
Electrical and Computer Engineering

## Professional Experience

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Jun 2023 – Sep 2023    **Angelicooussis Group**, Athens, Greece  
*Full-time job*  
Worked for two (2) months in the IT department and for two (2) months in the Energy Efficiency department as a Data Scientist.

Jul 2022 – Aug 2022    **Psathas Neilos Christos Software Company**, Volos, Greece  
*Software Engineer Internship*  
Assisted the team both in mobile application development and in the backend development (set up a NodeJS server & our own API service).

Feb 2022 – Jun 2022    **Swollet Ltd**, Dublin, Ireland  
*Software Engineer Internship*  
Assisted the team in mobile application development and optimizing the website.

## Projects

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- Modified the Linux Kernel for *Operating Systems* class, we replaced some of the algorithms with new ones.
- Developed a 5-stage pipelined MIPS CPU from scratch, for *Computer Organization and Design* class.
- Assisted a team with a European Project called Green Your Freight (GYF) not only in developing the android mobile app but also helped them setting up a NodeJS server.
- Developed a client-server chat (desktop application) using Java sockets.
- Developed a fully functional file explorer (desktop application) using Java.
- Developed both the web app and the mobile app (Android) for a marketplace in place of a class in university (special topic).
- Developed a simple file drive where files are being stored in MongoDB (web app).
- Conducted data analysis on a given dataset for the *Data Mining* class where I tested some machine learning models.

## Skills

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Programming Languages & Frameworks    C, Python, Java, SQL, NodeJS, JavaScript, HTML, Express, EJS, Swift, PyTorch, TensorFlow

Databases    MySQL, PostgreSQL, MongoDB, Firebase, SQLite

Technologies

Git (Version Control), Android Studio, Xcode, Unix CLI

## Courses - Specializations

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- **Machine Learning Specialization** (inc. 3 courses)  
From *Stanford University & DeepLearning.AI* (*instructor: Andrew Ng*)
  - I. Supervised Machine Learning: Regression and Classification
  - II. Advanced Learning Algorithms
  - III. Unsupervised Learning, Recommenders, Reinforcement Learning
  
- **Deep Learning Specialization** (inc. 5 courses)  
From *DeepLearning.AI* (*instructor: Andrew Ng*)
  - I. Neural Networks and Deep Learning
  - II. Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization
  - III. Structuring Machine Learning Projects
  - IV. Convolutional Neural Networks
  - V. Sequence Models

## Languages

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**English** (fluent – C2),

**German** (advanced – B2),

**Greek** (native)

## Academic and Research Experience

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*Fall 2021*

***Concurrent Programming***, University of Thessaly, Greece  
*Elective class*

In this course, my primary emphasis was on comprehending fundamental concurrent programming principles and synchronization techniques in the C programming language. I further solidified my understanding by applying these concepts through a series of assignments and practical experiments such as crafting solutions to prevalent concurrency challenges by employing binary semaphores, mutexes, and conditional variables, implementing the Conditional Critical Region mechanism (CCR) using mutexes and conditional variables and developing a framework for user-level threads, allowing for a more intricate control over thread management and scheduling.

*Spring 2021*

***Operating Systems***, University of Thessaly, Greece  
*Elective class*

This course encompassed a series of assignments that provided me with the unique opportunity to engage with a genuine operating system, namely Linux. Throughout these assignments, I not only gained hands-on experience but also contributed new code and enhanced functionality to the OS itself. These assignments were centered around pivotal aspects such as system calls, CPU scheduling, and memory management. I was involved in specific assignments that encompassed several tasks such as implementing the Shortest Job First (SJF) scheduling algorithm, modifying the SLOB (simple list of blocks) allocator to utilize the First-Fit algorithm for page and block allocation and

creating a simple filesystem based on FUSE (Filesystem in USErpsace) and adapting the source code from the Big Brother File System in order to make our filesystem functional and accessible. All of the aforementioned tasks were subject to rigorous evaluation through a series of experiments, which included conducting comprehensive statistical analysis to assess their performance.

*Fall 2020*

***Computer System Organization, University of Thessaly, Greece***  
***Mandatory class***

This class is a hardware-oriented class where we designed a five-stage pipelined MIPS CPU in Verilog with all the required parts of a CPU such as ALU, Regfile, Branch Prediction mechanism etc. The development of the MIPS CPU was a gradual process, systematically advancing through weekly labs. Furthermore, the practical aspect extended to the evaluation of algorithms through dedicated testbenches. This evaluation encompassed an in-depth analysis of performance metrics, particularly centered on machine cycles and other relevant benchmarks.