Konstantinos Petridis

Location: Thessaloniki, Greece

Linkedin | GitHub

Email: kpetridis.personal@gmail.com | Mobile: +30 6978365745

Technical Skills

Languages	:	C, C++, Python, Java, Javascript, Golang, Matlab
Frameworks	:	Spring, AWS Coral, JUnit, Catch2
Libraries	:	NumPy, SciPy, CuPy, EasyMock, Mockito, Pandas, Skicit-learn, Tensorflow, Keras, NetworkX, Pandas, Boost, STL, ETL, Eigen, Matplotlib, CUDA, OpenBLAS, OpenMP, OpenMPI, CILK
Dev Tools	:	Visual Studio Code, Git, Gitlab, Github, Docker, IntelliJ IDEA, CLion, Jira
Worked on	:	Distributed systems, parallel processing, dynamic programming, OOP, SaaS, microservices, micro-controllers, optimisation methods, API, DevOps, CI/CD, algorithms, data structures, unit testing, integration testing, cloud infrastructure, AWS, High performance computing, debugging, mocking, object-relational mapping, version control, Cloud storage, Cloud computing, software architecture, PThreads, data intensive systems, MySQL, PostgreSQL, MongoDB, NoSQL, relational databases

Work Experience

Software Engineer Oct 2022 – Apr 2023

Amazon Web Services (AWS) *Dublin, Ireland*

- Worked on infrastructures that guarantee high scalability, durability and fault tolerance of database systems.
- Took complete ownership and developed code in the services, responsible for scheduling and executing the brand new tasks, across distributed components of the infrastructure
- Developed, tested and debugged code using **Java, Bash, JUnit, Spring**, deployed changes in pre-prod environments to perform end-to-end tests on RDS instances, **designed** parts of the new product and found solutions to guarantee code maintainability, idempotence and re-usability for future implementations.

Software Engineer Feb 2021 – Nov 2022

SpaceDot *Thessaloniki, Greece*

- Software Engineer in the **AcubeSAT**, a nano-satellite, able to conduct biological experiments related to cell adaptation on board. The satellite is scheduled to be launched into space, in collaboration with the **European Space Agency** (ESA).
- Developed the On-Board Software Services, responsible for message parsing, telecommand processing, task triggering, telemetry creation, parameter sampling, storing and housekeeping, statistics calculation/reporting, error handling/logging, MCU synchronisation and communication. Also segmentation of the images captured during the biological experiment.
- Used **C, C++, STL, ETL, ATSAM microcontrollers, FreeRTOS, Boost, MPLabX, Catch2**

GSoC contributor May 2022 – Sept 2022

NumFOCUS *Remote, Thessaloniki, Greece*

- Implemented and improved VF2++, a state-of-the-art algorithm for multi and directed graph settings and extended it for the Monomorphism and Subgraph Isomorphism problems. Used **Python, NetworkX, CProfile, IPython**
- Achieved up to 15X and 30X speedup respectively, for dense and sparse graphs, compared to the previous Isomorphism solvers of the library, while also decreasing memory consumption significantly.
- My work can be found **here**

Education

Aristotle University of Thessaloniki Thessaloniki, Greece

Master's degree *in Electrical Engineering and Computer Science, with a* ***Major in Computer Science*** *Jan 2017 – Oct 2023*

Projects

- Parallel Triangle Counting in large sparse graphs (C, HPC, CSR matrix representation, Pthreads, OpenMP, CILK)
- Distributed kNN using vantage point tree (C, HPC, OpenMPI)
- GPU accelerated image denoising (C, HPC, CUDA, non-local-means)
- Parallel-distributed hybrid block Boolean Matrix Multiplication (C++, HPC, OpenMP, OpenMPI)
- Graphics Engine using Python Numpy (Python, Numpy, Computer Graphics, Phong, rotational matrix)
- Jupyter Notebooks on Linear Models, Decision trees and Ensembles (Python, Pandas, Numpy, Machine Learning)
- Genetic Algorithm for function approximation (Matlab, genetic algorithm, optimisation, gradient descent)
- Relational Criminology Database (MySQL, databases)