ORESTIS OUSOULTZOGLOU

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WORK EXPERIENCE

Democritus University of Thrace - DUTHSat-2 **Remote**
Research Software Engineer Dec 2023 – Present
Project between European Space Agency, companies & universities consortium.
Nanosatellite mission to detect oil slicks and marine contamination, and monitor agriculture through soil moisture detection.
- Designed and implemented high fidelity models for attitude control, simulator interface across domains

Aristotle University of Thessaloniki - Hellenic Space Dawn **Remote**
Research Software Engineer Mar 2023 – Present
Project between European Space Agency, companies & universities consortium, Greek Navy.
Nanosatellite constellation, inter-satellite optical communication and earth observation.
- Designed and implemented high fidelity models for attitude control, simulator interface across domains
- Designed and implemented high fidelity software for in-orbit power generation, verified against industry standard

EXPERIENCE

SpaceDot **Thessaloniki, Greece**
Science Lead Mar 2022 – Present
Project in collaboration with the European Space Agency (ESA), team of 70+ members across the EU.
Nanosatellite to probe the combined effects of microgravity and cosmic radiation on 100+ genetically engineered eukaryotic cell strains. The organisms will grow in-orbit inside a miniaturized lab-on-a-chip.
- Leading a 25 member team of interdisciplinary scientists and engineers to realize a Space Biology mission 5 years in the making

SpaceDot **Thessaloniki, Greece**
Research Software Engineer Mar 2020 – Mar 2022
- Designed and implemented Gene Expression Analysis pipelines
- Implemented on-board compression scheme for data downlink
- Designed a microfluidic Lab-on-a-Chip for multiplexed cell culturing in collaboration with EPFL (LBNC)
- Designed a miniaturized imaging system for fluorescence imaging

SpaceDot **Thessaloniki, Greece**
Software Engineer Apr 2019 – Mar 2020
- Wrote mission-critical, performant C++ to be run on-board
- Set up containerized CI/CD pipelines for deployment and code verification
- Set up pipelines for fuzzy testing and abstract interpretation static analyzers
- Designed the system architecture (MCU scheme, filesystem, OS, communication protocols, etc.)
- Worked with non-SEs in modeling and simulation of attitude control and determination, trajectory & spacecraft communication domains

GFOSS **Thessaloniki, Greece**
Software Engineer Oct 2018 – Jun 2029
GFOSS is the largest FOSS organization in Greece. I was selected as a member of its "Unit of Excellence",
a team of students for member universities

EDUCATION

Aristotle University of Thessaloniki **Thessaloniki, Greece**
Bachelor of Science in Computer Science Oct 2019 – Jun 2024
- **Minors**: Scientific Computing, Artificial Intelligence

SKILLS, LANGUAGES, INTERESTS

- **Programming Languages**: Julia, C++, Python, C, Java, R, Shell
- **Tools**: Git, Docker, CI/CD (various)
- **Soft Skills**: Leadership, Technical Writing
- **Languages**: English (Bilingual), Greek (Native)
- **Interests**: Cooking, Dungeons & Dragons, Piano, Brazilian Jiu Jitsu

LAST CONFERENCES

European CubeSat Symposium 2023 (withdrawn) **Leuven, Belgium**
Oral presentation: *AcubeSAT: Advancing Space Biology Research Through CubeSat Technology* Dec 2023

JuliaCon Local Eindhoven 2023 **Eindhoven, Nerthelands**
Oral presentation: *AOCS Simulations with Julia: Insights from the Hellenic Space Dawn Mission* Dec 2023

European Space Thermal Engineering Workshop 2023 **Amsterdam, Netherlands**
Oral presentation: *Thermal control design for AcubeSAT's biological experiment and proposed model correlation method* Oct 2023

JuliaCon 2023 **Boston, MA, USA**

European Lisp Symposium 2023 **Amsterdam, Netherlands**