ANDREA GALLEGATI

CSSLP – DevSecOps Engineer @ IDS AirNav – ENAV Group

andrea.gallegati@icloud.com | 3381077321 | Rome, IT
about.me/andreagalle | /andrea-gallegati | andreagalle | 0000-0001-7692-905X

EXPERIENCE

IDS AirNav – ENAV Group

Platform Engineer

Jul 2024 – Ongoing | Rome, ITA

- Managing several (backend) microservices, shared by any product in the suite, and some web apps, essential for the functionality and management of it.
- Maintaining and frequently updating third-party components to address rapidly emerging vulnerabilities.
- Developing IaC and maintaining an installation and configuration tool based on Ansible, to standardize the deployment of solutions.
- Enabling a stable foundation that accelerates development by offering standardized tools, services, and integration patterns across the organization.
- Supporting operations and assisting customers when issues escalate beyond the third level of support.

JHipster | Ansible | Postgres | Keycloak | DevSecOps | Docker Swarm | Postman | Jenkins | Burp Suite

Security Champion

Mar 2023 – Ongoing | Rome, ITA

- Certified Secure Software Lifecycle Professional (CSSLP – ISC2). Undergoing continuous training in cybersecurity.
- Assisting operations team in the deployment of containerized solutions in clustered environments, with Ansible.
- Leading threat modeling, dependency analysis, and security assessments (SAST/DAST findings, ASVS requirements), using advanced Jenkins pipelines to ensure a seamless CI/CD process.

CSSLP | Threat Modeling | CIS | ASVS | OWASP | SCA | SAST | Defect Management | CI/CD

Software Engineer

Apr 2021 – Jul 2024 | Rome, ITA

- Developing an high-load web application (for aeronautical publishing) using Spring Boot. A product sold by ENAV Group, the Italian Air Navigation Service Provider (ANSP) with hundreds of customers all around the world.
- Troubleshooting some performance issues, sometimes refactoring its microservice architecture, built around Apache Kafka, consuming massive data.
- Maintaining the legacy IAM solution (developed in-house) and taking part to the transition toward the current IAM solution (based on Keycloak).
- Designing and developing a migration tool for the transition from the legacy IAM solution. I made it in python, using Django for the migration tool dashboard.
- Organized two editions of a small hackathon at Sapienza University, using my network in the academy and challenging students with programming tasks. This brought new talent into our company.

Java | Spring Boot | Apache Kafka | Django | Non-Functional Requirements | Microservices | Vaadin

Temple University – Rome Campus

Intern Supervisor

May 2024 – Ongoing | Rome, ITA

- Sponsored student internships at Edukai, a startup where they developed and integrated services into the core product using advanced generative AI techniques and open-source projects in innovative ways.
- Supervised an intern working on the "Tiber River" project, developing a pipeline (in *Python*) to automate the generation of 3D models of iconic monuments using OpenStreetMap data (OSM), advanced photogrammetry with generative AI, and automated 3D modeling refinements.

Adjunct Instructor

Jan 2019 – Ongoing | Rome, ITA

- Teaching several classes, including *Problem Solving & Programming in Python*, *Intermediate Algebra*, a foundational course that is part of the GenEd (General Education) curriculum and *Mechanics of Solids*.
- Organized annually the *Motor Valley* field trip to Modena, with workshops, seminars and meetings with motorsport experts (i.e. Dallara Academy, the Maserati factory and the Ferrari museum) for the *Solids* class.

Educational Program Design | Lesson Planning | University Teaching | Online Tutoring

Teaching Assistant

Jan 2018 – Dec 2019 | Rome, ITA

- Teaching *Mechanics of Solids* in English, to American mechanical engineering students.
- Gained significant insight into the Anglo-Saxon approach to education.

Cybertech.eu – Engineering

System Analyst Intern

Apr 2021 – Apr 2021 | Rome, ITA

- Analyzing systems to implement appropriate Identity Access Management (IAM) solutions for a variety of clients in both Linux and Windows environments.

Accenture

Software Developer Intern

Mar 2021 – Mar 2021 | Rome, ITA

- Developing a web-based management software for a department of the Italian Ministry of the Interior.
- Working on jBPM (Java Business Process Model) flows, to automate tasks and managing process instances.

Java Academy

Dec 2020 – Feb 2021 | Rome, ITA

- Crash Course in Java (by Accenture), providing a significant leap into the world of software dev for technology.

Sapienza University

PhD Researcher

Sep 2017 – Jan 2021 | Rome, ITA

- Conducting my research project, mentoring a few students each semester, that contributed to my own project.

Research | Team Leading | Mentoring | Git | Agile

Teaching Assistant

Mar 2019 – Jun 2020 | Rome, ITA

- Teaching assisting a computational aerodynamics lab, for the Department of Aerospace and Mechanical Engineering (DIMA), in a small class environment focused on hands-on learning.
- Training students on programming and applying basic aerodynamic principles to three-dimensional finite wings design. The code was developed in groups.
- Scouting students to recruit them, getting involved in departmental projects and join our research team.

Teaching Assistant

Oct 2018 – Dec 2019 | Rome, ITA

- Teaching assisting a calculus class for the School of Industrial Engineering (ICI) to hundreds of freshman aerospace engineering students. Some of my former students are now working with me.
- Teaching assisting a Linear Algebra class for the Department of Basic Sciences Applied to Engineering (SBAI) to Biomedical, Energy, and Electrical Engineering classes.
- Interacting with students from different academic backgrounds and coordinating with different professors, with different teaching methods.

EDUCATION

Sapienza University – DIMA

Ph.D. in Theoretical & Applied Mechanics

Nov 2017 – May 2021 | Rome, ITA

Thesis title: "Droplet condensation in turbulent jets." Supervised by: Prof. Paolo Gualtieri.

- Developing high-performance software (HPC) for simulating complex, high-resolution, multi-phase turbulent flows.
- Maintaining optimized codebases, using parallel computing paradigms (OpenMP, MPI, CUDA) to take full advantage of distributed computing facilities
- Deriving an analytical approach to accurately represent phase transition processes interaction, in turbulent flows.
- Building a pipeline to deploy the compiled code onto remote supercomputers, running simulations on different environments and to periodically post-process intermediate results, monitoring the status real-time.

Turbulence | Multiphase Flows | HPC | Direct Numerical Simulations | Fortran

M.Sc. in Aeronautical Engineering

Sept 2014 – July 2017 | Rome, ITA

110/110 cum laude Thesis title: "A consistent framework for mass, momentum and energy exchange in two phase flows: DNS of a turbulent jet in the two-way coupling regime." Supervised by: Prof Carlo Massimo Casciola.

- Specialized into aerodynamics, propulsion, and structures (APS) curriculum.
- Focused on continuum mechanics, applying fundamental science to solve complex engineering problems.
- Fascinated by theoretical approach and numerical methods.

Fortran | PDE | Navier-Stokes Eqs.

ISAE Supaero – DAEP

Erasmus+ Program

Jan 2016 – Aug 2016 | Toulouse, FRA

Project title: "Cost versus accuracy in LES of wall bounded flows in CharlesX." Supervised by: Prof. Julien Bodart.

- Studied in an international environment, in the heart of an aerospace hub in Europe, with many different cultures.
- Experienced with enthusiasms the multidisciplinary approach, that is typical of France and that has enriched me so much from a technical point of view.
- Developed Python code for post-processing fluid dynamics numerical simulations, benchmarking a software developed by the Center for Turbulence Research (CTR), in Stanford.

python | C++ | bash | French

Sapienza University

B.Sc. in Aerospace Engineering

Sept 2011 – Nov 2014 | Rome, ITA

110/110 cum laude Thesis title: "The Newton's problem of minimal resistance." Supervised by: Prof. Andrea Dall'Aglio.

Functional Analysis | LaTeX

LSS J.F. Kennedy

High School Diploma

Sept 2006 – July 2011 | Rome, ITA

87/100

LANGUAGES

English (Full Professional)
French
Italian (Native)

Last updated: October 30, 2024