ANDREA COLLI-VIGNARELLI

Turin, Italy

linkedin.com/in/andreacolliv ⋄ github.com/andreacv98

OBJECTIVE

Computer Engineer, specialized in Cloud Computing and Computer Networks, currently working as Research Fellow @ DAUIN - Politecnico of Turin. Dynamic and proactive person eager to learn and with a passion for innovation.

EDUCATION

Master Degree, Computer Engineering, Politecnico di Torino   2020 - 2023
Cloud Computing and Computer Networks
Web application, software engineering, virtualization, software networking, distributed systems, cloud computing

Bachelor Degree, Computer Engineering, Politecnico di Torino   2017 - 2020
Computer networks, Databases, Operating systems, Object Oriented Programming, Automatic controls

SKILLS

Programming languages	Java, GoLang, C, C++, Python, BASH, Javascript
Programming tools and frameworks	React JS, NodeJS, Bootstrap React, Ansible, Kubespray, GitOps
Tools	Wireshark, Postman, Git, Docker-compose
Cloud and virtualization	Kubernetes, Liqo, Proxmox, Docker

EXPERIENCE

Research Fellow   Oct 2023 - Now
DAUIN - Polytechnic of Turin   *Turin, Italy*

- Multi cluster resource sharing
- Study and development of protocol for communication between clusters to offer computational resources (REAR)
- Contribution to open-source project related to european project: FLUIDOS

Master Thesis Student   Oct 2022 - Jul 2023
TOP-IX Consortium   *Turin, Italy*

- 'Enabling multi-provider service composition among different kubernetes clusters'
- Study and development of a model for integrating third-party services into one's own Kubernetes cluster in a federation of clusters context (GAIA-X project)
- GoLang, Javascript, Liqo, Open Service Broker API protocol, OpenID Connect protocol and Keycloak

Intern Student   Mar 2020 - Jul 2020
LINKS Foundation   *Turin, Italy*

- 'Widget development on Thingsboard and its integration on an existing iPOPO platform'
- Map widget that connects to the underlying smart home platform developed with iPOPO
- Python, Javascript, iPOPO (OSGi), Thingsboard

PROJECTS

FLUIDOS Open source, european project involving that aims to leverage the enormous, unused processing capacity at the edge, scattered across heterogeneous edge devices that struggle to integrate with each other and to coherently form a seamless computing continuum. My contribution to this project includes the prototyping of core components (FLUIDOS Node), their integration and the process of creating a suitable test environment through GitOps. (FLUIDOS Project website).

REAR Protocol The REAR (REsource Advertisement and Reservation) protocol enables different actors such as cloud providers and customers to advertise, reserve (and then consume) resources (e.g., virtual machines and their characteristics in terms of CPU, RAM; a Kubernetes cluster, etc.), and services (e.g., a database as a service). My contribution to this project was in the context of the FLUIDOS Project for the development of the REARv0.2, its workflow and its datastructures. (Find more here).

React Dashboard for Master Thesis Marketplace Development of a dashboard in React. Frontend for a marketplace, where suppliers can offer their services for sale and customers buy them for their Kubernetes clusters. Development also of a backend in GoLang for the dashboard. This project is part of my Master's thesis. (Find more here).

Aruba Challenge@PoliTo "D.I.Y. – Digital Identity for Yourself" Challenge winner in collaboration with Aruba S.p.A.. Study of the "Enter with CIE" institutional authentication model customised with the OpenID Connect protocol. Development of a simple React application that will integrate the "Enter with CIE" with OpenID Connect and collect all the institutional services previously distributed on many different platforms. (Find more here).

C++ Screen Recorder with FFMpeg library Development of a cross-platform application in C++ for recording a computer monitor. Possibility to start, pause, resume and stop recording with or without sound at user's discretion. Use of the FFMpeg library and multithread programming in C++. Course project "System Programming" a.y. 2020/2021. (Find more here)

Surveys web application Development of a React based web application. Development of a backend with NodeJS with a REST server API. Dashboard created with React Bootstrap with a personal area, creation of polls and the possibility of responding to the polls created. Course project "Web Application 1" a.y. 2020/2021. (Find more here)

LANGUAGES

Italian	Native speaker
English	B2, Cambridge F.C.E.