

Luca De Menego

BACKEND · WEB · MOBILE

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Work Experience

Thema Optical

Domegge di Cadore, BL, IT

HEAD OF IT DEPARTMENT

Jul. 2023 - **Current**

- Lead a team of developers and IT professionals, providing guidance, mentorship, and oversight to ensure successful project delivery.
- Manage a SAP B1 infrastructure, optimizing business operations and ensuring system reliability and performance.
- Develop .NET applications interfacing with SAP B1 for seamless data integration and workflow automation.
- Maintaining responsibilities from the previous role, including development of web and mobile applications and the management of a GCP infrastructure.

Thema Optical

Domegge di Cadore, BL, IT

FULL-STACK & MOBILE DEVELOPER

Jul. 2020 - Jul 2023

- Developed e-commerce-based Web Applications in Vue.js, powered by Three.js.
- Worked with Yii2, a framework consisting of a Model-View-Controller paradigm used to handle both backend and frontend.
- Engineered Flutter applications for iOS and Android, supporting a B2B and B2C business model with an Augmented Reality experience.
- Worked with Augmented Reality frameworks for building Virtual-try-on experiences, namely ARKit, ARCore and Mediapipe.
- Managed Google Cloud Platform infrastructure, including MySQL databases, Virtual Machines, and Cloud Run Docker Containers.
- Managed domains and DNS records.
- Configured NGINX web servers, including virtual hosts and SSL/TLS certificates.
- Developed Bash Scripts and Windows Forms in C#.

SpazioDati

Trento, TN, IT

BACKEND DEVELOPER INTERNSHIP

Feb. 2021 - May. 2021

- Developed a notification center in Go, based on the gRPC framework and powered by Firebase Cloud Messaging.
- Built and deployed a serverless infrastructure utilizing AWS Lambda and AWS DynamoDB, focusing on high-availability, fault tolerance, and auto-scaling.
- Integrated a monitoring system based on OpenTelemetry, gathering logs, metrics and employing distributed tracing. Exported gathered information in Sentry, AWS X-Ray and Prometheus.
- Developed a minimal frontend component in React.

Skills

LANGUAGES ITALIAN (NATIVE) · ENGLISH (B2 ADVANCED)

PROGRAMMING LANGUAGES JS/TS · JAVA · PYTHON · C++ · C# · GO

BACKEND NGINX · NODE.JS · EXPRESS.JS · MYSQL · MONGODB

FRONTEND VUE.JS · SVELTE · TAILWINDCSS · ANGULAR

MOBILE FLUTTER · DART

OTHERS GIT · LINUX · DOCKER · PYTORCH · GCP · K8S · FIGMA

Education

UniTN (University of Trento)

Trento, TN, IT

MASTER'S DEGREE IN COMPUTER SCIENCE

Sep. 2021 - Jul. 2023

- Grade: 110 cum laude
- Average: 30/30

UniTN (University of Trento)

Trento, TN, IT

BACHELOR'S DEGREE IN COMPUTER SCIENCE

Sep. 2018 - Jul. 2021

- Grade: 110 cum laude
- Got a Scholarship from "La Magnifica Comunità di Cadore".

E. Fermi (Scientific High School)

Pieve di Cadore, BL, IT

HIGH SCHOOL DIPLOMA

Sep. 2013 - Jul. 2018

- Grade: 100/100
- Got a Scholarship from Protti's foundation.

Personal Projects

Interactive Code Playgrounds

Svelte, JS/TS, npm

COMPUTER SCIENCE EDUCATION

@lucademenego99/icp-bundle

- Enhanced Computer Science classes by creating Interactive Code Playgrounds (ICPs) displayed as slides, enabling code execution and output display.
- Client-side code execution in JS and WASM, supporting multiple languages including Python, Java, C, C++, and more.
- Partially co-financed by the European Commission as part of the Erasmus+ OpenU project.

Unsupervised Domain Adaptation

Python, PyTorch

DEEP LEARNING

@lucademenego99/uda

- Compiled a collection of methods for unsupervised domain adaptation techniques.
- Developed a customized implementation of the MEDM network architecture, achieving optimal domain adaptation with a 5% accuracy difference from the upper bound.

Multilevel Distributed Cache Architecture

Java, Akka

DISTRIBUTED SYSTEMS

@lucademenego99/multilevel-cache

- Implemented a distributed multi-level cache protocol ensuring client-centric consistency even in the event of cache failures.
- Used the JUnit testing framework to verify system consistency under various conditions.

Enterprise JavaBeans application

EJB, Hibernate, Wildfly, H2

WEB ARCHITECTURES

@lucademenego99/studs-search

- Developed an Enterprise JavaBeans application utilizing WildFly, Hibernate, Java Servlets, and an H2 database.
- Implemented advanced object-relational mapping for automatic database entity mapping and lazy data fetching.
- Utilized DTOs, a Service Locator, and Business Delegates for efficient backend-frontend communication.

Evader-Pursuer game

C++, ROS

APPLIED ROBOTICS

@lucademenego99/evader-and-pursuer

- Calculated collision-free Dubins shortest paths for robots in an arena with obstacles.
- Developed an iterative dynamic programming approach for solving the multipoint Markov-Dubins problem.
- Implemented a visibility graph using the plane-sweep principle, achieving a final complexity of $O(n \log n)$.

On-demand SDN slicing

Python, Ryu, MiniNet

SOFTWARE DEFINED NETWORKING

@lucademenego99/on-demand-sdn-slices

- Implemented an SDN slicing approach enabling dynamic activation and de-activation of network slices, with user-configurable topology, flows, and QoS configurations.
- Developed a web application with D3.js for frontend visualization of main functionalities exposed by the backend.