EnricoMeloni

Contact

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Languages

Native Speaker Italian
English fluency

Skills

Powershell Scripting,
Grails, Java
C#, Python

Education

2016 - 2019 **M.Sc. in Computer Engineering** Full Marks and Honor — Pisa, Italy
University of Pisa

2017 **The Cornell, Maryland, Max Planck Pre-doctoral Research School** — Saarbrücken, Germany
Max Planck Institute

2013 - 2016 **B.Sc in Computer Engineerings** Full Marks and Honor — Pisa, Italy
University of Pisa

2008 - 2013 **Highschool graduation** Full Marks — Sassari, Italy
Liceo Scientifico Statale "G.Marconi"

Research Experience

2018 - 2019 **Detection of Personal Protection Equipment** — Pisa, Italy
Thesis author

- Thesis for M.Sc in Computer Engineering, collaboration with CNR Pisa.
- Research of state-of-the-art techonologies for object detection.
- Development of GTA V plugin for the creation of a virtual dataset, to be used for training of a Convolutional Neural Network
- Finetuning of YOLOv3 trained on COCO dataset using the virtual dataset as training set.
- Technologies used: C#, Python, Darknet(CNN engine written in C), YOLOv3

2017 - 2018 **HMR Project** — Pisa, Italy
Project Member

- HMR Project (`http://hmr.di.unipi.it/index_en.html`), an independent research project about Computer Science History.
- Research on CHKB, a Computer History Knowledge Base, to unify museum catalogues in a single knowledge base. Collaboration as a part of the B.Sc. Thesis to the implementation of a basic prototype of CHKB.
- Research on the feasibility of Knowledge Base Driven Information Extraction, that is using Ontology Based Information Extraction tools to collect from the web facts about Computing History and assess its reliability and accuracy through a score given using the current KB contents as a reference.

Work Experience

2018 **WANRaptor WAN Emulator at East Coast Datacom, Inc** — Rockledge, USA
Project Manager and Backend Developer

- The project based on building an embedded WAN Emulator for network impairments. The Emulator has a web interface that allows the user to easily configure and monitor the performance of the Emulator.
- The project was developed by a three man team. I coordinated the team as a project manager, I developed the backend, designed the production deployment and designed a test plan with the customer.
- Technologies used: Java, Groovy, Grails, Python, Ansible, Make

Relevant Projects

All my personal projects and group projects can be found in my personal GitHub page (**https://github.com/enricomeloni**) or in my group GitHub page (**https://github.com/MeloniZippoProjects**).

2018 - 2019 **Meme Audiobot for Telegram** Pisa, Italy

- A Telegram inline bot that can be used to search and share popular quotes or sounds in a Telegram message without leaving the chat context. The bot is reachable at the tag @memeaudio_bot. For the development of the project we explored Azure cloud technologies with its CI-CD tools.
- Audios are listed in a json file, each audio has a youtube link and one or more clips, composed of a interval of time and search terms. When the json file is committed, a pipeline starts the deploy which consists in retrieving the audio files from the youtube link, updating the database and starting the bot web server.
- Techonologies: C#, Asp.Net Core, Powershell, Azure, Telegram Bot API

2018 **Audio Recognition on Android** Pisa, Italy

- An Android App leveraging Audio Fingerprinting to recognize music. The user can record some music with the microphone and the application will respond with the title and artist of the most similar music found in the database.
- The app uses a audio fingerprinting algorithm to compute a fingerprint for an audio track. Then the fingerprint is searched across the database of known music and the most similar is reported.
- The database is in SQL Lite, and is pre-processed and made available as an asset in the application. The database file is produced by a Powershell script and a Java program.
- Technologies: Java, Powershell, Android

2018 **Face Recognition on Android** Pisa, Italy

- An Android App leveraging Machine Learning technologies to recognize faces. The user can register new faces through images or videos, and flag that face as authorized or not authorized. The smartphone cam is used as live feed for face detection, and the app will notify if face detected are allowed or not. Unrecognized faces will be reported and can be later used to create a new face profile.
- The app uses OpenCV for Java as the main framework; Haar Cascade Classifier for face detection; VGG2 is used as a feature extractor: the last convolutional layer output is used as a feature vector, which is then used to compute similarities between recorded face profiles.
- Technologies: Java, Android, OpenCV

2017 **KB-ABE Photo Sharing** Pisa, Italy

- Service for secure image sharing. It leverages KP-ABE cryptography for encryption. It is composed of a client and a server. The client allows the user to upload and download images according to their permissions. The server creates and distributes keys in a transparent and secure way over HTTPS.
- KP-ABE encrypts every picture with some attributes, and each personal key has a boolean condition over those attributes. Only objects which satisfy the condition can be decrypted by the personal key.
- Technologies: C#, .NET, XAML, WPF.

Professional Training

2016 **Internship as Software Developer at Inera, SRL** Pisa, Italy

2 months internship. Main topics:

- Design and development of management software with Spring and Grails
- Research and study of NoSQL technologies
- Extension of pre-existing software