



# Davide Talon

M.S. COMPUTER ENGINEERING STUDENT

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## Education

2017 - Today | **M.S. Computer Engineering** | *University of Padova*

Attending the second year of Master's degree.

Grade Point Average at present time: 29.63 (over 30)

2013 - 2017 | **B.S. Information Engineering** | *University of Padova*, 103/110

Thesis: "Experimental study of adaptive video streaming algorithms",

Advisor: Andrea Zanella.

2007-2013 | **High School Diploma in IT** | *ITTS Vito Volterra, San Donà di Piave*, 100/100

## Relevant Working Experiences

**Luca Rossi e Co.** WAITER

Summers 2011-2019 | *P.S. Margherita, Caorle (VE)*

Waiter at Margherita Summerhouse during summer seasons.

**Charanga Ltd** SOFTWARE DEVELOPER INTERN

June 2012 | *Brighton, UK*

Development using Ruby On Rails of the DAMS (Digital Assets Management System) of the company.

## Projects

### Generating Music with a GAN

2020 Development of a music generation system with a Generative Adversarial Network. The aim of the project is to generate fake music in the raw audio domain which has the challenging problem of different timescale correlations. Pytorch was used as backend.

### ASR - Keyword Spotting

2019 Development and analysis of a small footprint Keyword Spotting(KWS) system. Two main models were analyzed: a pure convolutional network and a CNN + RNN with attention layer one. Keras was used as Deep Learning framework.

### Self Organizing Networks in LTE

2018 Design and analysis of a Self Organizing Network(SON) exploiting a Matlab LTE simulator. As a team member, I worked on a Reinforcement Learning algorithm (Q-learning) with the goal to optimize inter-cell interference.

### DASH algorithms comparison

2017 Development of an analysis framework to assess DASH(Dynamic Adaptive Streaming over HTTP) selection policy algorithms. Most of the work was focused on a DQN(Deep Q-Network) algorithm and its training procedure. Comparison with other common choosing strategies concluded the work.

## Skills

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### Computer skills

Intermediate: Java, Python, Matlab, Keras, Pytorch, MacOS X, Linux - Base: Git, C, Apache Spark, MPI, Windows.

### Presentation

Latex, MS Office: Word, Excel, PowerPoint.

### Soft skills

Team working, leadership, open-mindedness, emotional intelligence, versatile, self-motivation, self-management, curiosity, problem setting, problem solving, persistence.

### English

Listening: B2, Reading: B2, Writing: B2, Speaking: B2.

## Relevant Coursework

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### Algorithms

Divide and Conquer, Dynamic Programming, Greedy

### Advanced Algorithms

Randomized algorithms, Numerical Problems(Cryptography), Approximation algorithms

### Telecommunication

Source Coding, Channel Coding, Information Theory, ISO/OSI layers and protocols, Network modeling (Markov Chains, Poisson and Markov Processes)

### Machine Learning

Statistical Learning, basic models (SVM, perceptron, Neural Network), PCA, SOM, Deep Learning(FFNN, CNN, RNN), Reinforcement Learning, Speech Recognition, GAN

### Big Data Computing

Clustering(k-means, k-median, hierarchical), Association Analysis, Graph Analytics, MapReduce on Spark

## Pubblication

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D. Talon, L. Attanasio, F. Chiariotti, M. Gadaleta, A. Zanella, and M. Rossi, "Comparing DASH adaptation algorithms in a real network environment", *Proceedings of the European Wireless 2019*, 2-4 May 2019, Aarhus, Denmark.