Rennola
Alessandro

1257 West Flournoy St., Chicago, USA
+1 7734749825
alessandrorennola@gmail.com
https://www.linkedin.com/in/alessandro-rennola

EDUCATION

Laurea | Polytechnic University of Turin
07/24/2014 – 07/27/2017
Graduated 110/110.

Mathematics, Physics, Chemistry, Electronics, Automation fundamentals.

Computer Science: fundamentals, algorithms, data structures, architectures, computer networks, operating systems, databases, signal theory and processing.

Laurea Magistrale, Master of Science | Polytechnic University of Turin, University of Illinois at Chicago
08/24/2017 – 2019

- Databases advanced topics (Datawarehouse, DBMS, Data Mining). Big Data (Hadoop MapReduce, Spark, Spark Machine Learning framework, Spark Streaming framework).
- Advanced networking (IPv6 and Interoperability, QoS, WAN).
- Software Engineering and Information Systems.
- Advanced Computer Architectures (ARM, MIPS64).
- Advanced Operating Systems (UNIX and WINDOWS programming. UNIX kernel).
- Distributed Programming (UNIX socket API, Websites programming).
- Future coursework: Artificial Intelligence I, Mobile Application Development, Neural Networks and Information Retrieval.

EXPERIENCE

Teaching Assistant - Databases | Polytechnic University of Turin
03/01/2017 – 06/16/2017
Assist 100 students of "Database" course during laboratory hours on weekly basis, dealing with SQL (Oracle, MySQL), Relational Algebra, fundamentals of HTML and PHP.

Teaching Assistant - Algorithms and Programming | Polytechnic University of Turin
10/02/2016 – 01/20/2017
Assist 150 students of 'Algorithms and Programming' course during laboratory hours, on weekly basis. The course deals with Algorithms, Data Structures (Lists, Trees, FIFO, LIFO and priority queues, Hash tables, Graphs) and advanced Problem Solving, including Combinatorics in C.

SKILLS

Programming: Python, Java 9, C, C++, SQL, PHP, HTML 5, CSS, JavaScript, ARM Assembly, 8086 Assembly. Advanced knowledge of C, Java, SQL.

ACTIVITIES

Languages:

- Italian native.
- English - IELTS: Reading:8.5 Listening:9 Writing:6 Speaking:7.
- French: basic knowledge.

Projects:

- **Concurrent Socket Programming for File Transfers**
  APR 2018 – JUL 2018
  Individual assignment for Distributed Programming course. Concurrent Client-Server program that transfers (large) files from the working directory of the server on demand. Server security was ensured by managing access violations, handling crashes from both sides, etc. Client and server interacted via a custom communication protocol and used IP as Network layer and TCP as Transport layer. Platform Independent, deployed on UNIX OS.
  Coded in C using the Socket API.

- **Website w/ HTML, PHP, JavaScript, SQL, HTTPS**
  APR 2018 – JUL 2018
  Individual Assignment for Distributed Programming Course. Development of a secure, reliable, consistent website that handled bookings for a fictitious transportation company. Security was ensured by password hashing and https protocol. ACID properties were enforced by managing both sequential and concurrent access on the website. SQL, PHP, JavaScript, HTML injections were prevented.
  Coded in: HTML, PHP, JavaScript, SQL. Protocols used: HTTP, HTTPS. Database Management System: MySQL.

- **ARM LandTiger V2.0 LPC1768 - Educational Library**
  OCT 2017 – MAR 2018
  Two-person project that aims at exploring some functionalities and features of the ARM LandTiger development board, namely the GLCD and the TouchPanel peripherals. This goal has been reached by building both low-level and high-level procedures in C and Assembly.
  These libraries are going to be used as a starting point for the laboratory classes of Advanced Computer Architectures at Politecnico di Torino.
  Coded in C and ARM Assembly.
  IDEs used: Eclipse and ARM Keil uVision.

- **Improvement of Business Process**
  OCT 2017 – MAR 2018
  A Four-person project for Information Systems course, with a large focus on teamwork. The project aims at analyzing and describing an existing business process for the Italian largest telecommunication company pointing out the flaws and possible improvements. We analyzed the process, describing the architecture, its functional view via a UML class diagram, Business Process Model Notation (BPMN) diagram, Linear Responsibility Chart (LRC). Finally, we analyzed what changes could be done to the process, using as indicators Key Performance Indicator (KPI), Total Cost of Ownership (TCO), Return on Investment (ROI).