

## Andrea Mazzei

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BIO	Born in Rome, IT. on Apr 23, 1988.
CONTACT INFORMATION	Via Passo del furlo 19, Roma 3201198787, andreamazzei88@gmail.com
RESEARCH INTERESTS	Statistical Mechanics, Complex systems, Lattice models, probability and statistics, Scientific computation, Optimization.
COMPETENCES AND SKILLS (IN BRIEF)	<ul style="list-style-type: none"><li>• High level mathematical background: probability and statistics, field theory, geometry, numerical analysis, nonlinear and global optimizations.</li><li>• High level theoretical physics background: Lattice models, complex systems, neural networks and neural networks modeling, pattern recognition and dynamical system modeling.</li><li>• Programming languages: C,C++ developer, Qt graphical user interface developer, Python developer, both for industrial, scientific and videogame programming. MATLAB developer for scientific purposes. Intermediate level of Java, html and xml markup.</li><li>• Good understanding of electronics and circuitry, PCB design, configuration and soldering.</li></ul>
EDUCATION	<p><b>Università la Sapienza, Roma</b></p> <p>M.S., Theoretical physics, Jan 2015</p> <ul style="list-style-type: none"><li>• Topic: <i>A two step RSB algorithm for Bethe lattice spin glasses</i></li><li>• Advisor: Prof. em.to Parisi Giorgio</li><li>• <i>Summa Cum Laude, 110 out of 110 with honors</i></li></ul> <p>B.S., Physics , Nov 2012</p> <ul style="list-style-type: none"><li>• Topic: <i>Absolute negative temperatures</i></li><li>• Advisor: Prof. ass.to Caprara Sergio</li><li>• 102 out of 110</li></ul>
WORKING EXPERIENCES	<p><b>Contract of collaboration</b> Apr 2009 to Apr 2010</p> <ul style="list-style-type: none"><li>• UAV-AL - A kit of functions for the development of an human-independent photographic drone.</li></ul> <p>Neat S.r.l,</p> <p>Contract consisted in the mathematical modeling of the problem of finding the best route for a human-independent photographic drone, according to a series of constraints given by the user, such as a correct line of sight with the photographed object and/or with the radio station, the minimization of fuel consumption and others.</p>

**Contract of collaboration**

Apr 2010 to Apr 2011

- SeparA - tool for assisted civil air navigation.  
Arakne S.r.l,

Contract consisted in the development of a series of visual assistants for civil and entertainment air navigation. Main goal of SeparA is to re-plan in real-time the routes of its' users, in order to have a smooth fly experience with no risk of incidents at all. This has been achieved with the knowledge gathered in the preceeding collaboration with Neat S.r.l.

**Commissions**

Mar 2018 to present

- Escape room riddles  
Cogito ergo Room S.r.l,

Concept, design and developement of Arduino-powered escape room riddles. These include:

A fully functioning vintage radio riddle with custom audio drivers embedded into the board.

A remote controlled ouija board. powered by a 3D printer board and coming with a custom driver for the game master, developed in Python3.

All the minor riddles requested by the commissioner, developed in Arduino.

**Full time**

Feb 2018 to Dec 2020

- Full time developer  
Neat S.r.l,

Working process automation. Development of several tools to automatically generate documentations and unit tests for high-safety products, developed in Python3. Custom gdb/pdb automated debugger for embedded SIL4 products, developed in Python3.

**LANGUAGES**

- Mother Tongue Italian.
- Advanced English production and comprehension. Capable of understanding advanced scientific topics in English. Fluent english speaker and writer.
- Base-level french speaker. Base-level french comprehension.

**HOBBIES**

Game theory and mathematics of games. Chess, go, card games, Backgammon. Bot development for game strategy solving.

Juggling.

Videogame development.

Music, Plays piano.

Enjoys playing soccer with friends and skiing.

