Letizia D'Achille

CONTACTS

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SKILLS

PROGRAMMING

Proficient:
C • C++ • Matlab • Java • Magma • CoCoA
Basic:
Python • PHP • Javascript • OCaml • MySQL

MARKUP

LaTeX • HTML (Basic)

LANGUAGES

Italian (Mother tongue) • English (B2 Level) • French (Basic)

OTHER SKILLS

- Proficient in Microsoft Word, Excel and Powerpoint
- Proficient in both Microsoft Windows and macOS environments
- Competent in Linux environment

COURSEWORK

GRADUATE

- Computational Algebra (30L)

UNDERGRADUATE

- Arithmetic (30)
- Algebra 1 (30)
- Algorithms and Data Structures (30L)
- Scientific Computing (30L)
- Numerical Methods for ODEs (30L)
- Operational research (30)

ACADEMIC INTERESTS

Cryptography • Computational algebra • Programming • Number theory • Numerical analysis

EDUCATION

MASTER DEGREE IN MATHEMATICS

| CRYPTOGRAPHY CURRICULUM - STAGE ORIENTED
UNIVERSITY OF TRENTO
Lug 2022 - Ongoing | Trento, Italy
Master's degree in Mathematics with emphasis on computational algebra, coding theory and cryptography

BACHELOR DEGREE IN MATHEMATICS

| COMPUTATIONAL CURRICULUM
UNIVERSITY OF PISA
Aug 2018 - May 2022 | Pisa, Italy
Graduation mark: 110 / 110 Cum Laude • a.y. 2020/21
Weighted average: 28.76 / 30

LICEO SCIENTIFICO

| OPZIONE SCIENZE APPLICATE
LICEO SCIENTIFICO ``P. RUFFINI''
Sep 2013 - Jul 2018 | Viterbo, Italy
Graduation mark: 100 / 100 Cum Laude

BACHELOR'S THESIS

ALGEBRA LINEARE SU MODULI E ALGORITMO DI BUCHBERGER

LINEAR ALGEBRA ON MODULES AND BUCHBERGER'S ALGORITHM
Supervisor: Professor Massimo Caboara
Description:

Analyzing the computation of the normal form of a module via Buchberger's algorithm, we compare this procedure with the Gauss and Euclidean algorithms, and we study it as a tool for computing operations between modules. We provide a unified treatment of the theory, in which systematic comparisons have been developed from considerations that are not generally formalized in literature. The work is supported by examples developed using CoCoA.

🔗 Link to thesis

PROJECTS

UNDERGRADUATE WORK

UNIVERSITY OF PISA
- Algorithms and Data Structures - 🔗 Urban route planner (C++)
- Computational Lab - 🔗 Burrows-Wheeler transform of finite automata (C++)
- Scientific Computing - 🔗 Arnoldi-PET algorithm for PageRank (Matlab)

AWARDS

2022	**De Componendis Cifris** scholarship for students enrolled in the Master Degree in Mathematics - Curriculum Cryptography
2018	**INDAM** scholarship for enrollment in courses of study in Mathematics

CERTIFICATIONS

FCE | Cambridge English
Jun 2017
Grade: 179/190

1ST TERM SOLFEGGIO
Istituto Superiore ``G. Briccialdi``
Jul 2013 | Terni, Italy
Reading, Theory, Dictation, Ear Training

EXPERIENCE

SPORTELLO AMICO | Tutoring
Liceo Scientifico ``P.Ruffini``
2015 - 2018 | Viterbo, Italy
Tutoring for students of secondary school

OTHER INTERESTS

Computers • Video games •
Board games • Trekking • Piano •
Travelling

EXTRACURRICULARS

PHC | Systems administrator
University of Pisa • Department of Mathematics
Dec 2018 - May 2022 | Pisa, Italy
- Member of a group of technicians that maintains a network of Linux computers and offers various services for mathematics students
- Maintenance of the web server poisson.phc.dm.unipi.it

OLIMPIADI ITALIANE DELLA MATEMATICA
2014 - 2018
Participation in several editions, both in individual and team competitions

GCMUN | Delegate
Feb 2018 | New York, NY
International Model UN conference

SUMMER SCHOOL MATH&MORE
Convitto Nazionale ``Principe di Napoli``
Sep 2016 | Assisi, Italy
- Summer camp for development of excellence in mathematics
- One of two students selected to attend the school