Dragos Dumitru Ioan

⌂ Via del Commercio 26, Romano d'Ezzelino (VI), Italy ✆ +39 3474666438 ✉ ioandragos99@gmail.com
in linkedin.com/in/dragos-dumitru-ioan

Summary

I am a 24yo Physicist from Bassano del Grappa (VI) and trained at the University of Trento, with interests in the theoretical and computational aspects of statistical physics and its applications to related topics, namely stochastic dynamics, complex systems and data sciance.

Work Experience

Alma Mater Studiorum - University of Bologna, Bologna (BO), Italy   **July 2024 - Ongoing**
DIFA - Department of Physics and Astronomy
Research Fellow

- The research project is part of the *Digital Twin* initiative of the City of Bologna, in collaboration with other italian partners and institutes;
- Deep and thorough study of mathematical models of vehicular and pedestrian traffic, both microscopic and macroscopic;
- Statistical analysis of pedestrian flow data on road networks.

FBK : Bruno Kessler Foundation, Povo (TN), Italy   **April 2023 - February 2024**
CHuB - Complex Human Behaviour Laboratory
Research Intern

- Project performed as research for the Master's thesis;
- Thorough understanding of the theory of complex networks, percolation, adsorption and other dynamical processes on networks;
- Successfully simulated the adsorption of polymers and stars on random graphs with different topologies using the Python programming language;
- Developed a theoretical model based on Kinetic approaches, aimed at describing the adsorption dynamics of stars and polymers on networks.

University of Trento, Mesiano (TN), Italy   **February 2023 - December 2023**
DICAM - Department of civil, environmental and mechanical engineering
Tutor

- Weekly tutoring activity with the engineering students following the courses of *Geometry and linear algebra* and *Analytical mechanics.*

Opera Universitaria di Trento, Trento (TN), Italy   **June 2021 - August 2021**
Accommodation office
Front desk Intern

- Responsible for paper and digital cataloguing of the student's accommodation contracts.

Thermal Engineering S.R.L., Cartigliano (VI), Italy   **July 2017**
Intern

- Assembling sections of industrial ovens;
- Introduction to the design of industrial pieces on the SolidWorks software;
- Measurements of temperature and pressure aimed at checking the functionality of natural gas burners.

Education

University of Trento, Trento (TN), Italy   **September 2021 - March 2024**
Master's degree in Physics
Thesis: "Adsorption of different motifs on complex networks"
Final graduation score: 109/110

- Theoretical and Computational course: Quantum and Statistical Mechanics, Quantum and Statistical Field Theory, Differential Geometry, Computational Physics and Machine Learning;

- Application-oriented courses: Solid State Physics, Condensed Matter Theory, Disordered systems, Soft Matter Physics and Stochastic dynamics.

University of Trento, Trento (TN), Italy   **September 2018 - September 2021**
Bachelor's degree in Physics
Thesis: "The symmetry group of special relativity: structure and properties of the Lorentz group"
Final graduation score: 100/110

- The study plan included courses in Mathematical Analysis, General Physics (Mechanics,Thermodynamics and Electromagnetism), experimental physics (particularly in the electronics laboratory), Quantum Mechanics, Statistical Mechanics and Analytical Mechanics.

Liceo scientifico *J. Da Ponte*, Bassano del Grappa (VI), Italy   **September 2013 - July 2018**
High school diploma
Final graduation score: 98/100

Language skills

- **Italian & Romanian**: Native speaker

- **English**: Fluent speaker
  B2 *LanguageCert* certification and C1 examination at university;

- **French**: Intermediate (B1)

IT skills

- **Microsoft Office suite**: good knowledge;

- **Adobe suite: Lightroom & Photoshop**: intermediate knowledge;

- **LaTeX**: proficient user;

- **GitHub**: beginner knowledge;

- **Linux operating system**: basic user of the Ubuntu distribution;

- **Programming languages**: Good knowledge of *C*, *C++* and of the *GSL* scientific library. Good knowledge of *Python* and of the *Numpy* and *Networkx* libraries. Intermediate knowledge of *MatLab*;

- **ECDL**: certification obtained in 2018.