

Alexandru Ioniță

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PhD Student

PhD Student working in Public-Key Cryptography (attribute-based encryption, searchable encryption, bilinear maps cryptography)
Former competitive programmer - vast experience with C++ algorithm implementation during programming contests
Areas of expertise: Applied Cryptography - Attribute-based Encryption, Algorithms & Data Structures, C/C++, Python

EDUCATION

PhD Candidate "SIMION STOILOW" INSTITUTE OF MATHEMATICS OF THE ROMANIAN ACADEMY, Bucharest	November, 2020 — present
Master's Degree, Advanced Studies in Informatics "AL.I.CUZA" UNIVERSITY OF IAȘI, Faculty of Computer Science, I have pursued a special Master which was focused on research in cryptography. Most courses studied were about computer security and cryptography.	October, 2018 — June, 2020 Mark Percentage: 95.8%
Bachelor's Degree, Computer Science, "AL.I.CUZA" UNIVERSITY OF IAȘI, Faculty of Computer Science, Finished 5 out of 304 graduates	October, 2015 — June, 2018 Mark Percentage: 96.1 %
High School, NATIONAL COLLEGE, Iasi	September, 2011 – June, 2015 Mark Percentage: 99.6 %

EXPERIENCE

Engineering Advisor (Optimisation) AMBIT GROUP	July, 2020 — present Iasi
<ul style="list-style-type: none">involved in refactoring and optimization projects.currently working on a innovation project regarding invoice processing automation using OCR.	
Teaching Assistant "AL.I.CUZA" UNIVERSITY OF IAȘI	October, 2020 — June, 2021 Iasi
<ul style="list-style-type: none">Seminars of Graph Algorithms (CS210, Fall 2020) and Algorithm Design (CS1211, Spring 2021)Competitive Programming (CS1113F Fall 2020, Spring 2021): As a former competitive programmer, I have trained our faculty's students for algorithmic contests.	
Analyst Programmer (Research Assistant) "AL.I.CUZA" UNIVERSITY OF IAȘI	January, 2019 — August, 2020 Iasi
<ul style="list-style-type: none">I have done reasearch on <i>Searchable Encryption</i> and <i>Attribute-Based Encryption</i>, under the supervision of prof. dr. F.L. Țiplea	

TECHNICAL SKILLS

Algorithms & Data Structures	Strong background acquired during algorithmic training for competitive programming
Cryptography	Searchable Encryption, Attribute-Based Encryption, Bilinear maps, Elliptic curve cryptography
Programming/Scripting	C++, Python (Django), Java
Basic Knowledge	Linux, Bash, SQL, OOP

ACADEMIC PROJECTS

Research Assistant, Deliverable FPE	April 2021 — June 2021
<ul style="list-style-type: none">Worked on developing and implementing a new FPE (Format Preserving Encryption) Algorithm, under a project between INFOSYS company and Politehnica University of Bucharest.	

ACHIEVEMENTS

Competitive Programming

- **ICPC - International Collegiate Programming Contest**
 - **World Finals**
Porto, 2019 – Rank **62** (out of 135 International Teams). [↗](#)
 - **SEERC - Southeastern European Regional**
2019 – Rank **10** (out of 100 International Teams). Rank **3** among Romanian Teams. [↗](#)
2018 – Rank **3** (out of 87 International Teams). Rank **1** among Romanian Teams. [↗](#)
2016 – Rank **15** (out of 91 International Teams). Rank **3** among Romanian Teams. [↗](#)
2015 – Rank **56** (out of 84 International Teams). [↗](#)
 - **RCPC - Romanian Collegiate Programming Contest**
2019 – Rank **1** (First Place). [↗](#)
2018 – Rank **2** (out of 54 Romanian Teams). [↗](#)
2017 – Rank **20** [↗](#) 2016 – Rank **15**. [↗](#) 2015 – Rank **20**. [↗](#)
- **Google HashCode** - Programming contest organised by Google, participation in teams of 3 persons, students and/or professionals
 - 2020 – Rank **280** (more than 100 000 International Teams participated). [↗](#)
 - 2019 – Rank **305** (more than 70 000 International Teams participated). [↗](#)
 - 2018 – Rank **359** (more than 37 000 International Teams participated). [↗](#)
 - 2017 – Rank **721** (more than 21 000 International Teams participated). [↗](#)
 - 2016 – Rank **330** (more than 17 000 International Teams participated). [↗](#)
- **KPI Open** July 2019 (Kyev, Ukraine) – 3rd Prize, 5th place
- **ACMC-ICPC Workshop, Moscow** Programming Camp held at MIPT University, Moscow, Russia
 - 2017 – participation in 2nd division. Awards: Best Foreign Team, Second place, 1st Place Upsolving
 - 2016 – participation in 2d division
- **Petrozavodsk Training Camp** Winter 2019 (Petrozavodsk, Russia) – participation
- **Catalysts Coding Contest**
 - 2017 – 7th place in lasi site March, 2019 – 2nd place in lasi site
 - 2018 – 1st place in lasi site November, 2019 – 1st place in lasi site

PUBLICATIONS

1. Tiplea, F. L., **Ionita, A.** & Nica, A.-M. *Practically Efficient Attribute-based Encryption for Compartmented Access Structures in SECRYPT 2020* (ScitePress, 2020), 201–212.