# Spyridon Tzimas

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## Research Interests

◉ Theoretical Computer Science ◉ Machine Learning ◉ Data Science ◉ Big Data

## Studies

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| **2016–Present** | **Ph.D. Candidate** |
| thesis | **Path and Cycle Hitting Problems: Algorithms and Complexity** |
| institution | **Department of Mathematics, University of Ioannina** |

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| **2014–Present** | **Undergraduate Student** |
| institution | **Department of Computer Science and Engineering, University of Ioannina** |

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| **2013–2016** | **Master's Degree in Mathematics** |
| specialization | **Computational Mathematics and Computer Science** |
| thesis | **The Subset Feedback Vertex Set Problem on Interval Graphs and Permutation Graphs** |
| score | **9.54/10.00** |
| grade | **Excellent** |
| institution | **Department of Mathematics, University of Ioannina** |

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| **2009–2013** | **Bachelor's Degree in Mathematics** |
| score | **8.51/10.00** |
| grade | **Excellent** |
| institution | **Department of Mathematics, University of Ioannina** |
| and | **Certificate of Attendance and Successful Examination in Computer Science Courses** |
| no. of courses | **seven (7)** |
| institution | **Department of Mathematics, University of Ioannina** |

## Funding

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| **09/2021–Present** | Contract |
| task | Maintenance, development and adminstration of scientific computation software for the Department of Mathematics in the framework of project "DIONI" |
| institution | **University of Ioannina** |
| project | **DIONI: Computing Infrastructure for Big Data Processing and Analysis, Subproject 1: Scientific work and cloud services** |
| program | **Competitiveness, Entrepreneurship and Innovation, NSRF 2014–2020, Invitation 111: Support of Regional Excellence** |

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| **08/2017–04/2020** | **Scholarship** |
| action | **1st Call for H.F.R.I. Scholarships to Ph.D. Candidates** |
| foundation | **Hellenic Foundation for Research & Innovation** (`www.elidek.gr/en/`) |

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| **2012** | **Scholarship and Distinction Award**<br>for the performance in studies and ethos<br>during the 2009–2010 academic year (1st year of undergraduate studies)<br>at the Department of Mathematics of the University of Ioannina |
| foundation | **State Scholarships Foundation** (`www.iky.gr/en/`) |

# Experience

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| **09/2021–Present** | **Research Assistant, Systems Administrator** |
| laboratory | **Laboratory of Applied and Computational Mathematics** |
| institution | **Department of Mathematics, University of Ioannina** |

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| **2013–2019** | **Lab Assistant** |
| courses | **Introduction to Computers**<br>**Introduction to Programming** |
| institution | **Department of Mathematics, University of Ioannina** |

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| **10/2012–11/2012** | **Teaching Assistant** |
| course | **Internship** |
| institution | **Department of Mathematics, University of Ioannina** |

# Publications

### In Journals

- Charis Papadopoulos and Spyridon Tzimas. Computing a Mininum Subset Feedback Vertex Set on Chordal Graphs Parameterized by Leafage. Submitted.

- Charis Papadopoulos and Spyridon Tzimas. Subset feedback vertex set on graphs of bounded independent set size. *Theoretical Computer Science*, 814:177–188, 2020. `dx.doi.org/10.1016/j.tcs.2020.01.029`

- Charis Papadopoulos and Spyridon Tzimas. Polynomial-time algorithms for the subset feedback vertex set problem on interval graphs and permutation graphs. *Discrete Applied Mathematics*, 258:204–221, 2019. `dx.doi.org/10.1016/j.dam.2018.11.017`

### In Conference Proceedings

- Charis Papadopoulos and Spyridon Tzimas. Subset Feedback Vertex Set on Graphs of Bounded Independent Set Size. 13th International Symposium on Parameterized and Exact Computation (IPEC 2018). *Leibniz International Proceedings in Informatics (LIPIcs)*, 115:20:1–20:14, 2019. `dx.doi.org/10.4230/LIPIcs.IPEC.2018.20`

- Charis Papadopoulos and Spyridon Tzimas. Polynomial-Time Algorithms for the Subset Feedback Vertex Set Problem on Interval Graphs and Permutation Graphs. 21st International Symposium on Fundamentals of Computation Theory (FCT 2017). *Lecture Notes in Computer Science (LNCS)*, 10472:381–394, 2017. `dx.doi.org/10.1007/978-3-662-55751-8_30`

# Participation

**2021**

- Workshop on Graph Theory for Combinatorial Reconfiguration,
  held virtually in Sendai, Japan.

- Autumn School on Optimization and Market Design
  held virtually in Trier, Germany.

- Thematic Mini-Conference on Computational Topology and Machine Learning,
  part of the Thematic Einstein Semester on Geometric and Topological Structure of Materials at MATH+,
  the Berlin Mathematics Research Center, held virtually in Berlin, Germany.

- Summer School on modern directions in discrete optimization
  and
  Workshop on tropical geometry and the geometry of linear programming,
  parts of the Trimester Program on Discrete Optimization at the Hausdorff Research Institute for Mathematics,
  held virtually in Bonn, Germany.

- 2021 e-Summer School on Mathematical Biology
  held virtually in Patras, Greece.

- 16th Athens Colloquium on Algorithms and Complexity (**ACAC '21**)
  held virtually in Athens, Greece.

- 2021 NTHU (Online) Summer School on Operations Research and Applications
  held virtually in Hsinchu, Taiwan.

- 22nd Max-Planck Summer School Advanced Course on the Foundations of Computer Science (**ADFOCS 2021**)
  held virtually in Saarbrücken, Germany.

- Topics in Algorithmic Graph Theory 2021
  held virtually in Haifa, Israel.

- Graph Width Parameters: from Structure to Algorithms (**GWP 2021**),
  a workshop of the 48th International Colloquium on Automata, Languages and Programming (**ICALP 2021**)
  held virtually in Glasgow, United Kingdom.

- 18th International Conference on the Integration of Constraint Programming, Artificial Intelligence and Operations
  Research (**CPAIOR 2021**) held virtually in Vienna, Austria.

- 47th International Workshop on Graph-Theoretic Concepts in Computer Science (**WG 2021**)
  held virtually in Warsaw, Poland.

- 6th Highlights of Algorithms (**HALG 2021**)
  held virtually in London, United Kingdom.

**2020**

- International Autumn School on Constraint Programming, Combinatorial Optimization and Machine Learning
  held virtually in Toulouse, France.

- 17th International Conference on the Integration of Constraint Programming, Artificial Intelligence and Operations
  Research (**CPAIOR 2020**) held virtually in Vienna, Austria.

- 5th Highlights of Algorithms (**HALG 2020**)
  held virtually in Zürich, Switzerland.

- 15th Athens Colloquium on Algorithms and Complexity (**ACAC '20**)
  held virtually in Athens, Greece.

- 47th International Colloquium on Automata, Languages and Programming (**ICALP 2020**)
  and
  35th Annual ACM/IEEE Symposium on Logic in Computer Science (**LICS 2020**)
  held virtually in Saarbrücken, Germany.

- 15th International Computer Science Symposium in Russia (**CSR 2020**)
  held virtually in Ekaterinburg, Russia.

- Computability in Europe 2020: Beyond the horizon of computability (**CiE 2020**)
  held virtually in Salerno, Italy.

- 46th International Workshop on Graph-Theoretic Concepts in Computer Science (**WG 2020**)
  held virtually in Leeds, England.

### 2019

- 44th International Symposium on Mathematical Foundations of Computer Science (**MFCS 2019**)
  held in Aachen, Germany.

### 2018

- 13th International Symposium on Parameterized and Exact Computation (**IPEC 2018**)
  held in Helsinky, Finland.

- First Congress of Greek Mathematicians (**FCGM 2018**)
  held in Athens, Greece.

- 2nd Conference of Young Researchers in the Branches of Mathematical Science
  held in Ioannina, Greece.

### 2017

- 3rd Parameterized Complexity Summer School (**PCSS 2017**)
  held in Vienna, Austria.

# Skills

### Programming Languages

- **For Software Development:** C/C++, Java, Python

- **For Web Development:** HTML5/CSS3, HAML, Ruby on Rails, Javascript

- **For Scientific Computation:** Mathematica, MATLAB, R

### APIs

- **For 2D/3D Graphics:** OpenGL

- **For Parallel Computing:** OpenMP

- **For GPGPU:** CUDA

### Python Libraries

numpy/scipy (Scientific Computation), sklearn (Machine Learning), pandas (Data Science), matplotlib (Visualization)

### Specialized Software

- OrCAD (CAD and Simulation Tool for Circuits)

- Unity (2D/3D Game Engine)

# Certificates

| 2005 | **Zertifikat Deutsch** | 2004 | **First Certificate in English** |
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| language | **German** | language | **English** |
| level | **B1** | level | **B2** |
| grade | **befriedigend** | grade | **A** |
| institution | **Goethe Institut** | institution | **University of Cambridge** |