

Todor Hristov

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Education

- Sep 2021 – **Computer Science (MSc)**, *ETH Zürich*, Switzerland
March 2025
 - Overall Grade: 5.38/6.00
 - Received the Jury Award in the Game Programming Laboratory course.
 - Units studied include:
 - Advanced Systems Lab
 - Information Security Lab
 - Program Verification
 - Automated Software Testing
 - System Security
 - Principles of Distributed Computing
 - Design of Parallel and High-Performance Computing
- Sep 2017 – **Computer Science (BSc)**, *University of Bristol*, UK
July 2020
 - Recipient of The Hargrave Scholarship for Academic Achievement
 - Overall Grade: 81% (First Class Honours)
 - Attended the Algorithms Research Reading Group.
 - Units studied include:
 - Machine Learning
 - Computational Neuroscience
 - Data Structures and Algorithms
 - Concurrent Computing
 - Object-Oriented Programming
 - Software Product Engineering
 - An Introduction to High Performance Computing
- Sep 2012 – **Secondary Education**, *High School of Mathematics "Dr Petar Beron"*, Bulgaria
June 2017
 - Overall Grade: 5.98/6.00 | Major: Informatics and Mathematics

Work Experience

- March 2023 – **Research Assistant**, *Oracle*, Zürich, Switzerland
August 2023
 - Contributed to the development of the Parallel Graph AnalytiX (PGX) platform.
 - Designed and optimized algorithms for efficient computation on large, complex graphs.
 - Implemented new features and enhancements for the PGX platform, leveraging `Java` and `Python`.
 - Worked in a supportive, close-knit team to develop robust and scalable software solutions.
- Sep 2020 – **Backend Developer**, *Inexogy Smart Metering (Discovery GmbH)*, Heidelberg, Germany
August 2021
 - Developed a Smart Meter Gateway Administrator (SMGWA) for energy data management.
 - Used `Go` for its development, optimising system performance and integration between components.
 - Leveraged `Bash` for deployment and automation, streamlining the different processes.
 - Gained hands-on experience in the full development life cycle.
- June 2018 – **Systems Analyst Intern**, *VarSys Ltd.*, Varna, Bulgaria
August 2018
 - Diagnosed and repaired hardware and software issues, improving technical troubleshooting skills.
 - Effectively communicated technical problems to non-technical clients.

Projects

- 2024 **Large Language Models for Email Phishing Training and Education**,
Prof. Dr. Srdjan Čapkun, Dr. Daniele Lain, *ETH Zürich*, Switzerland
 - Master's Thesis with the System Security Group, focused on AI-enhanced email phishing training.
 - Built a modular platform with `React`, `FastAPI`, and `MongoDB`, deployed in three `Docker` containers.
 - Conducted a 201-participant study showing that LLMs enhanced training-page effectiveness.
 - Available on ETH Zürich's Research Collection: doi.org/10.3929/ethz-b-000695282

- 2022 **Seth's Pyramall**, *Game Programming Laboratory*, ETH Zürich, Switzerland
- Developed a 2D platformer in C# using the `MonoGame` framework, as part of a six-person team.
 - Recipient of the Jury Award, given by the expert game developers from Studio Gobo.
 - Implemented a grid-based sand simulation, creating realistic flow and piling dynamics.
 - YouTube Trailer: youtube.com/watch?v=u3z3P-rHndg
- 2020 **Improving Mouse Detection via Motion Tracking**,
Dr. Sion Hannuna, Dr. Neill Campbell, University of Bristol, UK
- Bachelor's Thesis focused on improving object detection through motion tracking.
 - Developed a semi-automatic ground-truthing approach to label over 3000 high-quality images.
 - Used SORT (tracking-by-detection) to identify hard-to-detect images and reduce false detections.
 - Compared the performance with conventional bootstrapping and classical data augmentation.
- 2020 C++ **Raytracer**, *Computer Graphics*, University of Bristol, UK
- Developed a raytracer using Simple DirectMedia Layer (SDL) and OpenGL Mathematics (GLM).
 - As part of a two-person team, implemented the following features:
 - Soft shadows
 - Anti-aliasing
 - Mirrors
 - Textures
 - Phong Shading
 - Glass

Achievements

- 2020 **Hargrave Scholarship for Academic Achievement**, *University of Bristol*, UK
- Awarded to a final-year student in the BSc Computer Science program.
 - Granted based on academic performance and overall grades.
- 2018 – 2019 **Top 100 in the World**, *Bloomberg Global CodeCon Finals*, UK
- Represented the University of Bristol in Bloomberg's prestigious global coding competition.
 - Competed in both the 2018 and 2019 editions, demonstrating consistent high-level skills.
 - Used C++ to solve eight challenging problems, combining both theoretical and practical knowledge.
- 2018 **First Place from University of Bristol**, *AI Gaming Mini-Hack*, UK
- Secured first place from my university in a competitive AI game agent challenge.
 - Developed a solution to approximate the NP-hard Travelling Salesman Problem.
 - Implemented the solution in Python, optimizing its efficiency in a competitive environment.
- 2017 **First Place**, *Accessibility Hack 2017*, University of Bristol, UK
- Awarded first place in a group competition focused on creating solutions to enhance accessibility.
 - Developed a Chrome Extension that detects and simplifies complex website text.
 - GitHub Repository: github.com/LukeStorry/simple_read
- 2015 **Gold Medal**, *National Spring Competition in Informatics*, Bulgaria
- Secured 1st place in one of Bulgaria's most prestigious nationwide programming competitions.
 - Solved three complex C++ problems within a 5-hour timeframe.
 - Successfully adhered to stringent time and memory constraints for all solutions.

Skills

Technical	Programming Languages:	C/C++, Python, JavaScript, Java, Go, Bash
	Parallel Computing:	MPI, OpenMP
	Software Development:	Test Driven Development, Agile Software Development
	Tools & Technologies:	Git, Docker, L ^A T _E X
	Computer Science Fundamentals:	Data Structures and Algorithms, Computer Architecture
Languages	English (C1) German (A2) Bulgarian (Native)	

Hobbies

Playing table football and simulation video games, such as *Cities: Skylines* and *Minecraft*.