

Dear Admissions Committee,

I hope this letter finds you well. I am writing to express my sincere interest in the Master's program in Information Technologies at Tartu University and to provide insights into my motivations, aspirations, and qualifications.

My passion for Information Technologies has been a driving force throughout my academic journey. As I approach the completion of my undergraduate degree in the Computer Science program at Tartu University, I am eager to further enrich my knowledge and skills in this dynamic field. The Master's Computer Science program at Tartu University holds significant appeal to me, not only because of its esteemed faculty and innovative curriculum but also because of the inspiring and driven individuals who comprise the university community. This vibrant atmosphere promises to be the perfect setting for furthering my academic knowledge and professional development.

I am genuinely intrigued by two specialisations within the Master's program: Distributed Systems and Cryptography and Security. These areas resonate with my academic and practical background, professional interests, and aspirations.

The increasing complexity and interconnectivity of modern technological ecosystems underscore the critical importance of efficient and scalable distributed systems. This specialisation aligns seamlessly with my curiosity about tackling real-world challenges associated with designing, implementing, and maintaining systems operating across multiple interconnected nodes. I am particularly drawn to exploring concepts such as fault tolerance, data consistency, and distributed service orchestration.

Simultaneously, I am captivated by the specialisation in Cryptography and Security, recognising the paramount importance of securing digital assets and communications in our increasingly interconnected world. Delving into the intricacies of encryption, secure communication protocols, and the development of robust security measures aligns seamlessly with my commitment to developing reliable solutions for modern problems.

I believe that by pursuing a dual interest in both, I can develop a well-rounded skill set that positions me as a versatile and informed professional. The prospect of contributing to and learning from the dynamic community at Tartu University in these areas is fascinating.

During my undergraduate studies, my primary emphasis was on mastering Java. As I delved into programming, I initiated my journey by implementing diverse algorithms and creating sandboxes to deepen my understanding of Java's object-oriented paradigm. Throughout these undertakings, I utilised essential tools like Git for version control, Gradle for building, Spring framework for developing, JUnit for testing and much more. Additionally, I explored other languages such as Scala, C++, Python, SQL, JavaScript, and TypeScript. These experiences offered me invaluable insights into diverse high-level languages' underlying principles. Moreover, delving into the functional programming paradigm with Idris broadened my understanding and enriched my skill set.

At the conclusion of my second year of bachelor's studies, I secured an internship with Cybernetica, which seamlessly transitioned into a full-time position at the Taxes and Customs department. In this role, I actively contribute to the development of e-Estonia, specialising in the digitisation and automation of the Estonian Export System. Moreover, I had a noteworthy solo project involving implementing modifications to the Tax system in response to a VAT increase in Estonia and much more.

Additionally, within the academic realm, I collaborated with a team of three individuals to create a plagiarism detector for the Python language. This project presented significant challenges, particularly in the theoretical aspects, as it required a deep dive into the semantics of Python's built-in AST package for parsing code into an Abstract Syntax Tree (AST). The open-source code repository for this project is accessible at <https://github.com/ArR4e/DSProject>.

My skills in algorithms and mathematics, cultivated through Tartu University's bachelor's computer science program, are grounded in a robust theoretical foundation. Courses such as Discrete Mathematics, Theoretical Computer Science, Algorithms and Data Structures, Automata, Languages, and Compilers

provided me with a deep understanding of fundamental principles. Moreover, maintaining a GPA consistently above 4 underscores my commitment to academic excellence. With this background, I am confident in my ability to analyse algorithm efficiency, ensure correctness, and devise innovative solutions in the field of Cryptography and Security.

This perspective, combined with my theoretical understanding and practical experience gained during my academic journey, positions me well for meaningful contributions to computer science. This program is a catalyst for cultivating innovative thinking. I believe in the transformative nature of the curriculum, which holds the potential to inspire novel perspectives and solutions. In the near future, I am particularly eager to contribute to the digitisation of our world. Moreover, my aspiration extends beyond merely contributing to existing projects; I am open and willing to contribute to currently non-realistic ideas, recognising that innovation often stems from pushing the boundaries of what seems achievable as quantum computing or creating an Artificial Superintelligence. Drawing inspiration from this course's alums who have founded unicorn companies, I envision leveraging the skills acquired in this program to spearhead and contribute to projects that may ultimately lead to the establishment of another unicorn company. I am excited about the prospect of applying these skills to make a lasting impact on the technological landscape, both locally and globally.

Thank you for considering my application. I am eagerly looking forward to the opportunity to contribute to and learn from the vibrant academic environment at the University of Tartu.

Sincerely,

Mykyta Voievudskyi