As technology continues to advance at an unprecedented pace, my fascination with data science has grown exponentially. In a world driven by data, the ability to extract meaningful insights and make informed decisions has become paramount. From the proliferation of smartphones to the rise of artificial intelligence, it is evident that we are living in an era where data is the lifeblood of innovation. As an aspiring data scientist, I am captivated by the power of data to drive change, uncover hidden patterns, and solve complex problems across various industries. I am eager to immerse myself in the dynamic field of data science, where I can utilize my analytical mindset and passion for technology to harness the vast potential of data in shaping our ever-evolving world. This fascination seems to stem from my father’s work, in which he told me the people accountable for handling company-specific data that determine the company's future paths are the ones in charge of data science.

To pursue knowledge and understanding in data science, I have undertaken various initiatives that have provided me with a well-rounded foundation in the field. One of my key endeavors was enrolling in a Python programming course on Udemy. Through this platform, I gained a comprehensive understanding of Python and its applications in data science. The course covered topics such as data manipulation, visualization, and machine learning, equipping me with practical skills to analyze and interpret data effectively. Additionally, I pursued an internship in the field of accounting, which allowed me to apply data analysis techniques to real-world scenarios. During this internship, I utilized Excel and other data management tools to analyze financial data and generate insights for decision-making. This experience not only enhanced my understanding of data manipulation but also highlighted the importance of data-driven decision-making in business context. Moreover, my enrollment in an International Baccalaureate computer science class further expanded my knowledge of data science. This course covered fundamental concepts such as algorithms, data structures, and database management systems. I gained hands-on experience in programming languages and learned about the principles underlying data organization and analysis. This academic exposure provided a strong theoretical foundation that complemented my practical skills.

To stay abreast of the latest advancements and trends in data science, I dedicated significant time to research and self-study. I delved into various literary works, research papers, and online forums to explore different methodologies, techniques, and case studies in the field. This self-guided research allowed me to deepen my understanding of statistical analysis, machine learning algorithms, and data visualization, as well as expose me to innovative approaches and best practices within the data science community. In summary, my pursuit of knowledge and understanding in data science has encompassed a range of experiences and initiatives. Through online courses like Udemy, an internship in accounting, an International Baccalaureate computer science class, and extensive research, I have developed a strong foundation in Python programming, data analysis, and theoretical concepts of data science. These experiences have equipped me with the necessary skills and knowledge to contribute effectively to the field of data science, and I am excited to continue my learning journey in this rapidly evolving discipline.

The skills I have honed through my success in international and national math and economics competitions provide a solid foundation that is highly relevant to data science. The few notable ones are American Math Olympiad, Singapore & Asian Schools Math Olympiad, World Mathematics Invitational, World Economics Cup, and National Science Olympiad for both math and economics. These competitions have sharpened my analytical thinking, problem-solving abilities, and mathematical aptitude. The rigorous training and practice required to excel in these competitions have equipped me with a strong quantitative mindset, enabling me to approach complex data problems with precision and logical reasoning. In addition to strong quantitative skills, these competitions have also enhanced

my ability to work under pressure and meet tight deadlines. Data science projects often involve working with large datasets and time-sensitive deliverables, and my experience in competitions has prepared me to handle these challenges eﬃciently. I have developed resilience, adaptability, and meticulous attention to detail, which are crucial attributes in the ﬁeld of data science where accuracy and precision are paramount.

Moreover, my involvement in math and economics competitions has fostered a deep curiosity and passion for problem-solving. I have learned to approach problems from multiple angles, seeking innovative solutions and employing creative thinking. These skills are invaluable in data science, where the ability to identify patterns, formulate hypotheses, and devise effective algorithms is essential. Overall, my skills cultivated through winning international and national math and economics competitions signiﬁcantly contribute to my proﬁciency in data science. They provide me with a solid quantitative foundation, analytical thinking, the ability to handle complex problems, and a drive for continuous learning and improvement. By leveraging these skills, I am conﬁdent in my ability to excel in data science, tackle challenging projects, and make meaningful contributions to the ﬁeld.

Upon completing my studies, my passion lies in making a tangible impact on Indonesia by harnessing the untapped potential of data science to optimize infrastructure, improve efficiency, and enhance overall social welfare. Indonesia, with its diverse population and unique challenges, presents an opportunity to apply data-driven approaches to address societal issues and uplift the lives of its citizens, particularly the disadvantaged. With my education in data science, I am equipped with the skills and knowledge to analyze vast amounts of data, derive meaningful insights, and develop predictive models. This expertise will be invaluable in identifying inefficiencies within the infrastructure systems of Indonesia. By analyzing transportation patterns, energy consumption, and resource allocation, I can help optimize the utilization of existing infrastructure, reduce waste, and improve the overall efficiency of essential services. Furthermore, data science can play a transformative role in promoting inclusivity and social welfare. By utilizing data-driven strategies, I can identify regions or communities that are underserved or facing disparities in access to education, healthcare, or basic amenities. Through targeted interventions and evidence-based decision-making, I can collaborate with relevant stakeholders to develop policies and initiatives that address these gaps, ensuring that the benefits of improved infrastructure reach all segments of society, including the marginalized and disprivileged.

Moreover, my education in data science equips me with the ability to visualize and communicate complex information effectively. This skill is essential for engaging with policymakers, government agencies, and community leaders. By presenting data-driven insights in a clear and compelling manner, I can advocate for evidence-based decision-making and foster a broader understanding of the potential of data science to drive positive social change. In summary, my education in data science will empower me to contribute significantly to Indonesia's development by optimizing infrastructure, improving efficiency, and enhancing social welfare, with a focus on inclusivity. By leveraging data-driven approaches, I can identify and address gaps in services, ensuring that even the most disadvantaged segments of society can benefit from improved infrastructure and enhanced access to essential resources. Through my work, I aspire to create a more equitable and inclusive Indonesia, where data science is fully utilized to maximize efficiency, improve lives, and drive sustainable development.