UGRacing Personal Statement – Ashvin Selvakannan

A passion for racing, go-karting, along with my intrinsic curiosity towards the technical aspects of Formula 1 pushed further my hunger for the sport. My relevant experience comes from sheer passion and love for cars as well as Dynamics in general. Some contextual understanding of my desires and mindset is:

For years, I have been a staunch follower of F1 and the motorsport developments around me. From understanding the pitstop stints and fuel strategies to setting best-lap times in my local go-kart track, I have been continuously keeping my mindset focused on the world of Motorsport. Not to mention, a love for interactive racing games such as "Gran Turismo", has furthered my interest in the field of racing. I would consider my contextual background important, as I truly believe the right mindset and underlying passion that I have garnered in my early years will keep me forever motivated in the UGR team and beyond.

Divulging into my technical experience, I have always challenged myself with the accumulation of technical knowledge concerning the sport. In my high school years, I conducted experiments, and an extended essay on the "Drag Coefficient of a cone impacted by the change in its half-angle in fluid media." This extended essay required me to indulge in the world of engineering physics; I enrolled in engineering courses, wherein I learnt the concepts of Fluid dynamics, thermodynamics as well as rotational dynamics. These courses helped me apprehend terms such as the "fineness ratio" in dynamics for my experiments, along with the understanding of stokes law, the Bernoulli effect, continuity equation and so on.

Furthermore, I investigated a mathematical exploration on the impact of fuel consumption on race and pitstop strategies; I made use of both progressions as well as Integral Calculus methods, to find total lap times between stints and without stints. This exploration helped me better understand the mindset and thinking behind the complexity of lap times. Since lap times are the leading indicator of the performance of the car, something I look to explore with the UGR team.

I am currently strengthening my technical knowledge in relation to mathematics as well as engineering tools. I am presently learning AutoCAD 2021 along with courses on linear - Matrix algebra as well as courses on Statics, complex analysis and Linear Circuit analysis. My goal is to start learning Computational Fluid Dynamics soon, along with a course on Finite element analysis in the future to understand better rigidity and stresses of our components, which may, in turn, lead to higher inertia and less tire grip.

Finally, one of my primary goals in the UGR team is to work on Diffusers, to regulate downforce. Perhaps, I have ideas such as creating electronic diffusers to change the angle of attack on drag (To increase/decrease downforce) as well as working on the general improvement of the aerodynamic aspects of our UGR car. A constant pleasure in acquiring new knowledge along with a goal based-driven mindset, I believe, will help me excel along with like-minded individuals of the UGR team.

Extra-Curriculars (highlighting some of my team and individual qualities):

- An Avid Public speaker – Hosted school events (Annual days & debates)
- Society contribution – During early years, Green ambassador of the Schneider Electric - environment program and taught maths & English for underprivileged students at the International Inner Wheel organization.
- Team Leader – Football teams, Individual Athletics champion during middle years, science fairs as well as the team lead of an interschool fest (managed overall operation - revenue sharing, planning and finances along with public announcement and coordination, etc).