



EEDS ENGINEERING

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Mission Statement

EEDS Engineering is Gaspare Castagna, Chris Mazzuca, James Sheridan, and Dylan Vogel. We are a team of first-year Engineering Science students at the University of Toronto. As part of our program, we are seeking to partner with communities in the GTA and to offer our talents as student engineers. We are looking for ways to improve the lived experience of a community through engineering design, and to develop our skills in the process.

Philosophy

We are especially interested in applying engineering design to novel areas. We believe that some of the most interesting and fulfilling design work isn't just limited to buildings, cars, or computers—typical 'engineering' fields—but might lie in user experience, systems design, or policy.

It is important to us that we offer perspective and methodology grounded in consultation with stakeholders and consideration of our core values. This includes offering lasting and meaning improvements to a community that we decide to partner with.

Accessibility – We place emphasis on creating universally accessible designs that incorporate functionality, efficiency, and ease-of-use. This could mean improving access to information, developing upon existing technologies, or creating novel designs that address issues related to accessibility and usability.

Transparency – Every member of our team believes in a culture of transparency, with integrity, openness, and honesty as the guiding principles in our work and our design. We value an open dialog between us and our stakeholders such that we may offer a more effective solution in light of feedback and discussion.



GASPARE CASTAGNA

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Introduction

I am a first year student studying Engineering Science at the University of Toronto. I grew up in York Region and am a graduate of De La Salle College.

Aptitudes

- **Fluent in English, German and Italian** – DASDII C1 certification
- **Basic proficiency in French** – Studied throughout high school
- **Written and oral communication** – Won the English Award in grade eleven and experienced in analytic essay writing and presentation
- **Leadership skills and experience on an international level**

Past Experience

I am the incumbent Chief Organizer and Team Leader representing the Canadian Association of the Order of Malta at the annual camp for disabled youth held in Europe. My responsibilities include recruiting volunteers, fundraising to cover expenses, coordinating and supervising the travel of our volunteers and disabled guests, and communicating with the international organizers. I represent this initiative on behalf of the Canadian Association.

I have also participated in a research project in Honduras in April of 2016. I assisted in research regarding species biodiversity by collecting data regarding the ecosystem's stability and health. For instance, I observed and recorded the levels of coral bleaching at several locations on the coastline.

Interests

I am very interested in politics, particularly in how it can influence the field of engineering through the creation of policy. Concurrently, I seek to approach the field of engineering in how it can positively affect individual and societal welfare. For example, I am especially passionate about the role of engineering in developing reliable, affordable, and effective systems for the production of sustainable energy. I think the field of engineering will play a critical role as the world mobilizes to reduce its pollution of highly sensitive ecosystems critical to our survival.

I value integrity, reliability, and a dedication to quality in my work. I believe these principles constitute both professionalism and engagement, guiding me to conscientiously provide solutions both within a design team and the projects at hand.



CHRIS MAZZUCA

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Introduction

I'm Christopher Mazzuca, and I am currently in my first year in Engineering Science at the University of Toronto. I live just north of Toronto, in Vaughan, and commute from there. I went to St. Michael's College School for high school, and look forward to bigger and better things!

Aptitudes

- **Work ethic** – I've had 5 jobs thus far, and am currently working at a startup (EngineHire) during this semester.
- **Well-rounded** – I'm involved in clubs and team activities, including Skule B Hockey.
- **Communication skills** – Won the public speaking City championships in Grade 5.
- **Detailed and precise** – Carried the highest load in a course-related bridge project requiring exact construction of cardboard.

Past Experience

I have been fortunate enough to have had many opportunities that have shaped who I am. I've had a great deal of work experience for my age, and this has helped me develop an excellent work ethic, in addition to good communication, team-oriented and leadership skills. I've also had some humbling experiences, like when I went to the Dominican Republic for a week as part of a mission trip, that helped me realize the importance of helping one another.

I have also been lucky to attend great schools. I can proudly say that I've been involved in extra-curricular activities at school. In high school I was part of the DECA team, a well-known business oriented club. We got to travel to Austin, Texas for a conference as a team, where I learned more about the professional side of business. Also, I was a member of the robotics team that built a robot coded in "Robot C" that could shoot balls into basketball hoops, and I have some experience in this field.

Interests

I have many interests, which is why I consider myself to be well-rounded. Above all else, my primary interest is in succeeding at everything I do. If I commit to a job, I will see it through. I really enjoy team-oriented activities, and try to join as many as possible. I am very passionate, and I strive to be a reliable team member.



JAMES SHERIDAN

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Introduction

I am a student engineer at the Division of Engineering Science at the University of Toronto. I chose to become an engineer so I could use my skills to make positive, measurable changes to improve the lives of people in my community and the world. When I'm not studying, I like to read, play piano, and spend times outdoors.

Aptitudes

- **Framing** – Experience in developing design requirements to a complex problem through stakeholder engagement.
- **Thoughtful Design** – Talented in generating and selecting the best ideas using appropriate methods to consider all different perspectives, options and stakeholder requirements.
- **Communication** – Oral and written communication skills in English and French.

Past Experience

First semester, I was part of a team that designed a prototype of a water-carrying backpack with improved ergonomics for use in the third world. In high school I led environmental and service clubs, building my leadership and organizational skills.

Last summer I worked doing thermal simulation at a civil engineering firm, developing my own methodology to deal with a type of work at the company.

Interests

I really enjoy the study of human factors, which include everything from ergonomics to how a person interacts with a design.

I also find like to try to think about things in terms of systems, which helps to look at problems holistically and generate a balanced solution.

I am also really interested in thinking about commonplace problems with an engineering mindset, and how design can be used to improve different parts of peoples' lives.



DYLAN VOGEL

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Introduction

I am a student engineer earning my undergraduate degree in Engineering Science at the University of Toronto. I grew up in Toronto and graduated from high school with a major in Film Production. In my spare time I enjoy bouldering and Latin American literature.

Aptitudes

- **Leadership & Team Communication** – Subsystem lead within UTAT Space Systems.
- **PCB Design** – Designed sensor PCBs for an astrobiology CubeSat in Altium.
- **Graphic Design and Illustration** – Five years of professional experience and experience with Photoshop and Illustrator

Past Experience

I'm currently part of the University of Toronto Aerospace Team, Space Systems division, which is developing an astrobiology CubeSat as part of the Canadian Satellite Design Challenge. In August 2016 I took over the role of Payload Instrumentation Lead, where I lead a small team in the design and research of on-chip biological instrumentation. I've developed a sensor characterization interface, contributed to a team-wide interface requirements document, and organized people around subsystem-specific goals and timelines.

In November 2016 I was our team's Software Lead for the SEEK! Robotic Competition. Over the course of six hours we took our robot from initial conception to finished design and finished in the semi-finals. I would attribute our modest success to the strength of our communication and collaboration as a team within this restricted timeframe.

Interests

I am generally interested in design with a focus on reliability and usability. Reliability stems from many of my past experiences where it was more important that a design worked than that it met some of its secondary goals. Meanwhile, my focus on usability stems from my background in graphic design, and the philosophy that good design is invisible. From a team perspective I tend to value organization and documentation. Both are essential elements of good teamwork and foster an environment where individual members can succeed.