Aaryaman Singh

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EDUCATION

University of Toronto *September 2022 – June 2027*
Bachelor of Applied Science and Engineering (B.A.Sc) in **Mechanical Engineering** + **PEY Co-op**
Dean's Honour List | **GPA: 3.88**
Specialization: **Mechatronics** | Minor: Artificial Intelligence & Machine Learning and Engineering Business

SKILLS/ACHIEVEMENTS

- **Personal:** Project Management, Communication, Teamwork, Growth mindset, Time management, Resilience
- **Technical:** SolidWorks, AutoCAD, Python, C, Java, Frontend Dev, Minitab, MATLAB, Excel, Word, Teams
- **Achievements:** UofT International Scholar ($100K) | **Author**, "The Future of 21st Century" best selling on Amazon
- **Certifications:** George Brown College (Machining), Deloitte **(**Technology Consulting), MIT (Entrepreneurship)

EXPERIENCE

University of Toronto Formula Racing Toronto, ON | Vehicle Engineer *September 2023 - Present*
• Applied solidworks skills in designing drivetrain and modifying components of a formula car, conducted mechanical design and testing.
• Worked on conceptual design phase, assembly, FEA of new parts**,** utilized computer aided manufacturing techniques

University of Toronto Artificial Intelligence Toronto, ON | Team Lead *June 2023 - January 2024*
• Contributed significantly to team expansion and onboarding, collaborating with the director to build a high performing team and leading meetings to promote teamwork.
• Played a key role in devising and executing innovative marketing strategies, boosting engagement and outreach.

University of Toronto Aerospace Team (SAE) Toronto, ON | Electrical Lead *September 2022 - May 2023*
• Led a **cross functional team** of 10 in the electrical design for a Powered Autonomous Delivery Aircraft, using KiCAD for intricate schematic diagrams and integrating mechanical housing systems with GrabCAD and AutoCAD
• Executed precise soldering of critical electrical components including flight computers, RTK GPS, and circuits, **monitoring key characteristic parameters** and optimizing the interplay of components to ensure the aircraft met the highest standards of reliability and performance.

FertiliserIndia Delhi, India | Founder *May 2020 - November 2023*
• Developed and founded an information service website providing the latest fertilizer industry updates to farmers, retailers, dealers, and stakeholders. Conducted data analysis over winning content, demographics, and user flow on Google Analytics.
• Conducted data collection, market research and business growth strategy, resulting in more than 10K+ active users across 70 countries, and 100K+ page views monthly. Monetized the platform using Google Adsense, generating revenue.

PROJECTS

FDM 3D Printer | Solidworks *December 2023*
• Engineered a fully functional extruder and baseplate moving mechanism for an FDM 3D Printer using solidworks. Conducted **comprehensive part selection** and **cost analysis**. Made engineering drawings and specifications.

Music Genre Recognition System | CNNs, Data-augmentation, Transfer learning, 81.37 % Accuracy *December 2023*
• Performed data augmentation on GTZAN dataset, visualized the audio signals in the time domain, analyzed the frequency components of the audio signal over 0.01-second intervals by applying FFT, and generated spectrograms for the audio samples.
• Used feature extractor - AlexNet neural network and implemented a fully connected neural network as the classifier.

Right Angle Gearbox | Solidworks, Rapid-Prototyping *November 2023*
• Designed a right-angle gearbox with a 3:1 reduction ratio using solidworks, applying GD&T to all drawings. Employed **lean six sigma** technique and achieved **efficient rapid prototyping** with an emphasis on design for manufacturability, limiting print time to under 6 hours and assembly to less than 10 minutes.

Air Compressed Piston | Lathe, Mill, Drill Press *October 2023*
• Fabricated a piston from an aluminum block by reading **engineering drawings and specifications**, and employed precision machining tools like Lathe, Mill, and Drill Press. Executed advanced design calculations for optimal center of gravity.