

Gurucharan Ganapathi

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PROFESSIONAL SUMMARY

First-year student at Carnegie Mellon University pursuing a double major in Materials Science and Engineering and Music Composition. Strong foundation in quantitative analysis, problem-solving, and experimental thinking, with experience integrating creative and analytical approaches in interdisciplinary projects. Interested in applying materials characterization, data analysis, and computational methods to research-driven engineering work.

EDUCATION

Carnegie Mellon University Pittsburgh, PA

Bachelor of Fine Arts in Music Composition &

Bachelor of Science in Materials Science Engineering

Class of 2029

- **GPA:** 3.62/4.00

- **Engineering Coursework:** 33-141 Physics I for Engineering; 27-100 Engineering the Materials of the Future; 21-120 Differential and Integral Calculus; 57-101 Introduction to Music Technology

North Royalton High School

North Royalton, OH

Advanced Placement and Honors Curriculum

Graduated 2025

- **GPA:** 4.57

- **Honors:** Highest Honors; Presidential Award for Excellence in Academics; Pride of NRHS Award

- **Activities:** Marching Band, Varsity Tennis, Student Council, Key Club, Jazz Band, Pit Orchestra, Royal Harmony, Red Cross Club

EXPERIENCE & PROJECTS

Undergraduate Researcher

Carnegie Mellon University

CMU's NASA Science & Technology Research Institute (STRI) Project under Dr. Anthony Rollett Fall 2025 – Present

- Conducting research focused on correlating microstructure and texture with mechanical properties, emphasizing quantitative analysis through advanced synchrotron radiation characterization and machine vision methods for microstructure quantification and powder classification
- Trained in metallographic sample preparation, including precision grinding and polishing with Beuhler mounting and polishing machines, and experience working with Ti-64 in additive manufacturing workflows
- Using white-light interferometry to conduct surface and topography measurements to support quantitative analysis using the Keyence white light interferometer

Venture

Composed 2025

String Quartet

Premiered 21 November 2025

- Composed a string quartet exploring an emotional and psychological journey from hope and anticipation through struggle and tension, resolving in clarity and transformative beauty
- Created using MuseScore in collaboration with Dr. Katherine Pukinskis to refine expressive and structural elements

Starbucks

North Royalton, OH

Barista

June 2024 – Present

- Managed high-volume service demands with strong attention to detail and consistent work ethic
- Developed multitasking and communication skills in a fast-paced retail environment

LEADERSHIP

- **High School Marching Band – Drum Major:** Led rehearsals and coordinated logistics; managed field setup and cleanup. Ensured members were performance-ready, took attendance, and served as liaison between students and band directors
- **Varsity Tennis – Team Captain:** Organized practices, mentored JV players, and assisted the girls' program. Broke career and single-season doubles records; achieved three conference titles; finished with an 83–25 career record. Earned 2× First Team All-Conference, 1× Second Team All-Conference, and 1× Honorable Mention All-Conference
- **CMU Pickleball PR Representative:** Manage team social media to promote events, practices, and activities. Coordinate with sponsors to ensure product visibility at practices and events. Support operations by helping run practices, assign courts, and ensure equitable participation

SKILLS

- **Music Composition & Performance:**

- Familiar with MuseScore, Dorico, Reaper, and Flat
- Knowledge of music theory, including harmony, counterpoint, and orchestration
- Experience composing original works across classical, jazz, and electronic genres

- **Materials Science & Engineering:**

- Familiar with core principles of materials science and engineering
- Strong foundation in physics, chemistry, and material properties
- Lab experience in sample preparation, hardness and tensile testing, polishing, and grinding