

# Aadarsh Madhavan

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## Education

### Monash University, Australia

#### Master of Professional Engineering

Expected completion Dec. 2026

Specialisation: Mechanical Engineering

Skills: SOLIDWORKS, Mechanical design, Computational analysis, Mechanics of materials and fluids, problem solving, Finite element analysis

#### Bachelor of Science

Completed Dec. 2023

Specialisations: Astrophysics, Mathematics

Skills: Python, Data analysis, Data visualisation, Data modelling, Computational analysis, Mathematical modelling, Big data, problem solving

## Experience

### Monash Nova Rover

Sept. 2022 - Present

#### Business and Media Representative

- Managed relationships with team sponsors and key stakeholders.
- Part of the social media team posting regular updates and announcements regarding team events.
- Part of the media team at the Australian Rover Challenge, Adelaide.
- Leading the monthly newsletter for over 400 subscribers.
- Planning an annual launch night for our newly fabricated rover.

### Melbourne and Olympic Parks

October 2021 - Present

#### Guest Services/Merchandise Sales Representative

- Ensured to maximise guest experience at events at Rod Laver Arena, Margaret Court Arena, John Cain Arena and AAMI Park.
- Troubleshooted ticket issues, wayfinding and other issues for guest at events.
- Part of ushering staff inside arenas to ensure appropriate behaviour and guests are seated correctly.
- Part of the select ushering team for high profile and televised events including the 2022 Men's Australian Open Final, 2021 Men's Australian Open Final, ISUZU 2022 A-League Final.
- Managed part of the merchandise sales for high profile artist concerts including Elton John, Dua Lipa, Backstreet boys, Tame Impala.

### Glenburn Tennis Club

January 2021 - December 2022

#### Junior Tennis Coach

- Ensured students and parents were given actionable feedback and regular updates on their progress and how to improve their tennis.
- Led private coaching sessions for beginner students with 0-6 months of tennis experience.

### Adecco Australia

January 2018, January 2019

#### Australian Open - Guest Services Representative

- Ensured to maximise guest experience at the 2018 and 2019 Australian Open.
- Part of ushering staff at Margaret Court Arena and Rod Laver Arena at high profile matches including Roger Federer and Rafael Nadal, providing a memorable experience to guests.

## Projects

### Stellar Astrophysics

Mar. 2021 - Jul. 2021

#### Binary Star interactions analysis

*Python, MATLAB, Git, Scientific Writing, Mathematics, Data visualisation, Data analysis*

- This research project carried out within the Monash University School of Physics and Astronomy simulated a population of binary stars and aimed to understand the event that occurs when a pair of stars interact with each other in what's known as the Common Envelope phase, resulting in a high energy phenomenon known as Luminous Red Nova.
- Conducted simulations in Python and MATLAB accounting for the initial conditions and evolution of stars throughout their lifetime.
- Analysed and visualised data from simulated star properties using MATLAB and python data visualisation packages.

## **Experimental Physics**

Nov. 2022 - Jun 2023

### ***Design, Fabrication and development of two-dimensional materials***

*Python, Materials Science, Data structures*

- Developed methods to apply strain on two-dimensional materials that are atomically thin and exhibit different properties to regular 3D materials. Applying strain would change its electronic properties which could lead to useful future application.
- Developed data analysis algorithms to test the level of strain that was applied to the product.
- Designed and developed different straining techniques that could maximise strain.
- Conducted RAMAN spectroscopy and Photoluminescence mapping at Swinburne University to measure the amount of strain applied to the material.

## **Leadership and Volunteering**

### **Monash University Open Day - Physics and Astronomy Ambassador**

Aug 2022

- Demonstrated various physics experiments that demonstrated the concept of 'angular momentum'.
- Provided information to prospective students about the Bachelor of Science and the Physics and Astronomy department.

### **St. John Ambulance - First Aid volunteer**

Jan. 2019 - Jan 2021

- Provided first aid to the community at local events with a special focus on disadvantaged groups.

### **Caring Dental Group**

September 2018

- Assisted with greeting dental patients and providing support during their appointment.