https://aps.uk.to
apis0001@student.monash.edu
Melbourne, AU

Anthony **Pisani**
Honours Student in Pure Mathematics

EDUCATION

B.Sc. Advanced - Research (Hons.)

📅 Mar 2021 – Nov 2024   🏛 Monash University

- Ext. Major in Pure Mathematics, Minor in Mathematics
- Projected WAM of 93 and GPA of 3.99
- Honours Supervisors: Dr. Melissa Lee, Prof. Heiko Dietrich
- Honours Thesis (Ongoing): *Computational Constructions of the Maximal Subgroups of the Monster*

RESEARCH PROJECTS

Undergraduate Unit

📅 Nov. 2023 – Feb. 2024   🏛 Monash University

- Supervised by Dr. Tomasz Popiel.
- Used Martin Seysen's revolutionary Python package `mmgroup` to construct the 2-local maximal subgroups of the Monster sporadic simple group, along with some non-local maximal subgroups.

Honours Project

📅 Mar. 2024 – Oct. 2024   🏛 Monash University

- Supervised by Dr. Melissa Lee and Prof. Heiko Dietrich.
- Extended techniques from the previous project to construct the odd-local and remaining non-local maximal subgroups of the Monster.

SELECTED AWARDS

Ivy May Frary Mathematical Sciences Honours Scholarship

📅 2024   🏛 Monash University

- Payment of $6000 to a Mathematical Sciences Honours student at Monash University Australia on the basis of academic achievement.
- One scholarship awarded per year.

Gordon Preston Pure Mathematics Honours Award

📅 2024   🏛 Monash University

School of Mathematics award of $3000 for best entering full-time pure mathematics honours student.

Dean's Honours List, Faculty of Science

📅 2022   🏛 Monash University

Awarded to the top 20 students each year in the Faculty of Science.

RESEARCH INTERESTS

My research to date has been in the field of computational finite group theory, focusing on sporadic simple groups (primarily the Monster).

PROGRAMMING

- Significant experience in Python and Unix shell scripting.
- Familiar with HTML, CSS, and JavaScript.
- Limited experience with GAP and LaTeX.

PUBLICATIONS

2. H. Dietrich, M. Lee, and **A. Pisani**. Computational Constructions of the Maximal Subgroups of the Monster. In preparation.

   Computational constructions of the maximal subgroups of the Monster in `mmgroup`, found in many cases as part of my research projects.

1. **A. Pisani** and T. Popiel. Conjugacy class fusion from four maximal subgroups of the Monster. *J. Computational Algebra* **11** (2024) 100021.

   Calculation of the conjugacy class fusions to the Monster from four of its maximal subgroups, representing four of the five cases where this data was previously unknown. I constructed these four subgroups in mmgroup during my undergraduate research unit. The data were subsequently added to the GAP Character Table Library.

TALKS & SEMINARS

Feb. 2024	"Computational Constructions of Some Maximal Subgroups of the Monster Group" (Student Presentation)
May 2024	Presented lecture on Burnside's $p^a q^b$ Theorem (Student Presentation)

OTHER ACTIVITIES

Oct. 2021–4	Partook in Simon Marais mathematics competition (Top 10% 2021–2, Top 20% 2023)
Jan. 2024	Participated in AMSI Summer School