



Business Analytics Undergraduate Research

<https://business.purdue.edu/centers/krenicki-center/>



LEADER



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OVERVIEW

What: The Krenicki Center for Business Analytics and Machine Learning provides students an opportunity to collaborate on corporate-sponsored and research-based data analytics projects.

Why: When I started working at Purdue in 2016, the business school had very limited engagement with companies and few business majors presenting in the OUR Research Conference(s).

How: I started scoping individual and team-based research projects which were a key part of the courses I taught. I sought out scholarship opportunities (e.g., Summer Stay, CURE, OUR scholarship). I had some undergraduates work with our M.S. in Business Analytics & Information Management (BAIM) students. Then I began making analytics competitions as research projects!

PROGRAM GOALS

- ✓ Show students the fruit that can come from following a structured process in their work
- ✓ Help students become career ready and showcase their knowledge, skills, and abilities of data analytics to employers
- ✓ Align regional and national data analytics competitions directly into analytics courses so ALL students have the resources (often just time and guidance) they need to successfully participate
- ✓ Elevate the awareness and prestige of our business students and academic programs

AUDIENCE

- ✓ Mostly undergraduate students with majors in business. However, some students were in the honors college, or pursuing majors in other schools (e.g., Polytechnic, Liberal Arts)

PROGRAM EVOLUTION & DESCRIPTION

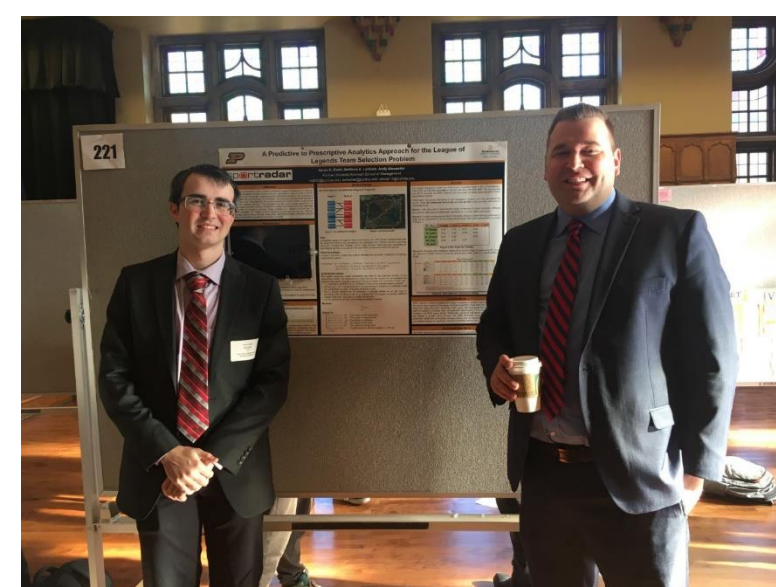
- **2018 - 2020**
Team-based research projects
- **2021 - 2023**
Focused more on MS BAIM program administration & corporate-partner projects
- **2024 - Present**
“*Excellence at Scale*”
Competition-focused projects



Times / Activities / Student Outcomes:

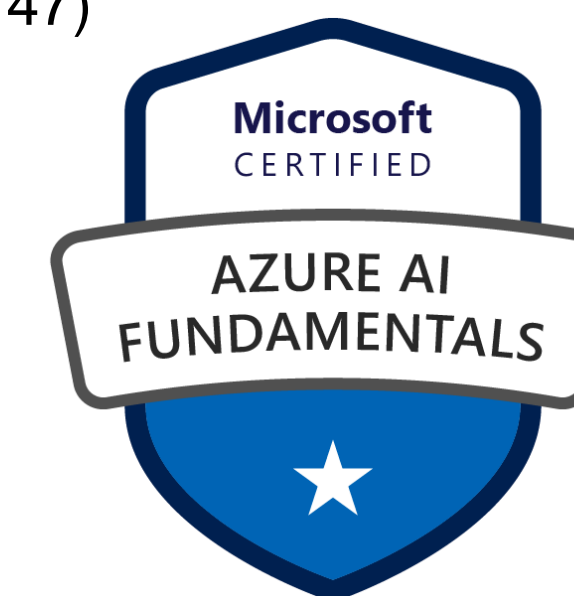
Summer Term

- MGMT 473 Data Mining (Maymester) 🔗 Summer Stay Scholarship
 - ✓ Most students do an individual project in my data mining class. Those who already completed the course can do Summer Stay Scholarship projects I have available
 - ✓ Poster presentations at the Purdue Summer Undergraduate Research Symposium (SURS)



Fall Semester

- National Data4Good Analytics Competition 🔗 MGMT 473 Data Mining
 - ✓ 100% passed Microsoft AI-900 certification (n=147)
 - ✓ Free six month DataCamp subscriptions
 - ✓ INFORMS Certified Analytics Professional (CAP) Framework training
 - ✓ AI/RAG training
 - ✓ AI Ethics training
 - ✓ Poster presentation at the Fall Purdue Undergraduate Research Expo (PURE)



Spring Semester

- Crossroads Classic Analytics Challenge (CCAC) 🔗 MGMT 389 Using R for Analytics 🔗 MGMT 474 Predictive Analytics (Prof. Davi Moreira)
 - ✓ (MGMT 389) Do a research project to create an R-Shiny app decision-support tool and present a poster of it at PURC
 - ✓ (MGMT 474) Students present a poster of their predictive modeling experiments from the CCAC competition
 - ✓ Poster presentation at the Fall Purdue Undergraduate Research Expo (PURC)



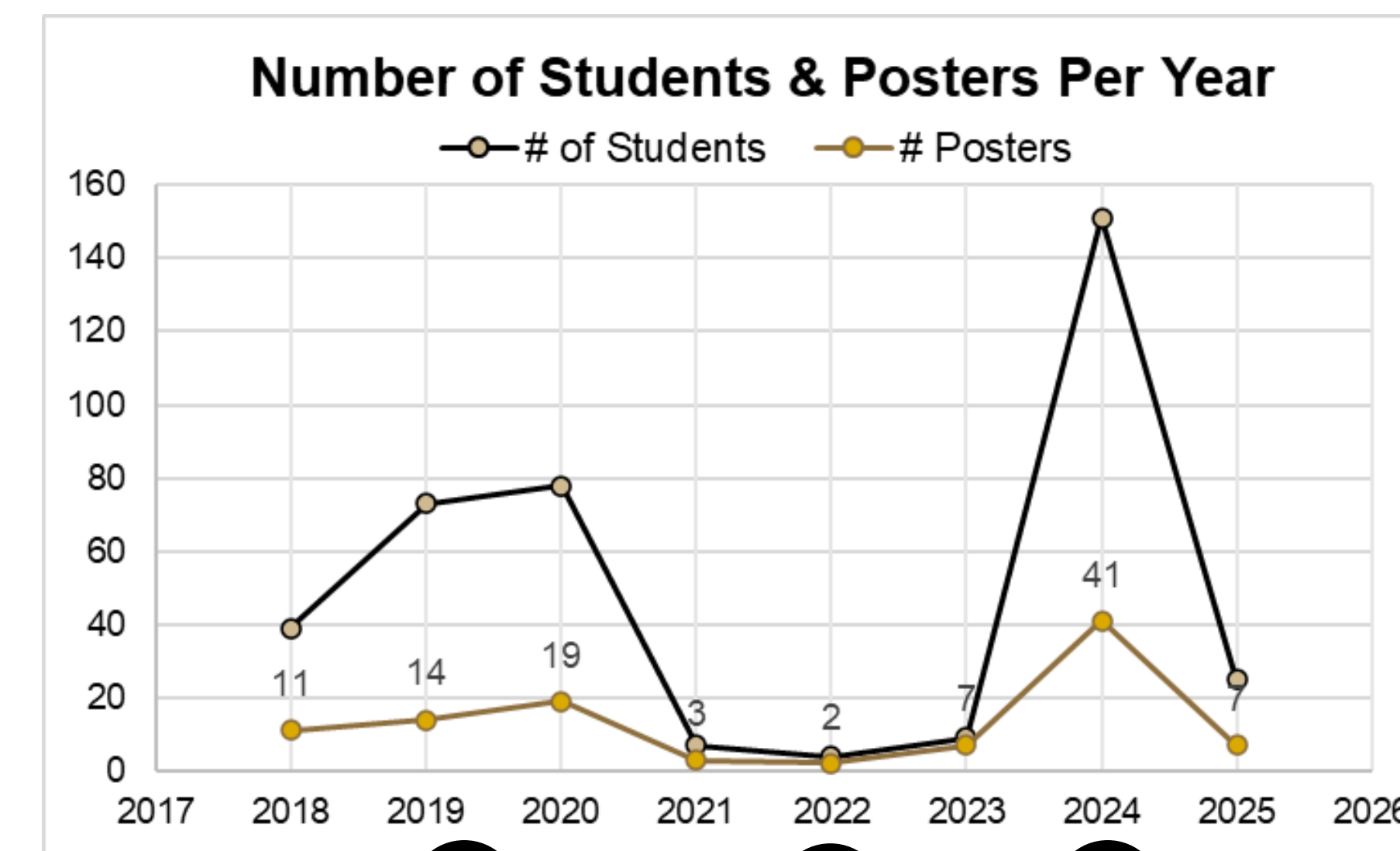
<https://bit.ly/2024data4good>



<https://bit.ly/CCAC2025>

OUTCOMES & IMPACT

The program has mentored a total of **386 Purdue University undergraduate students** leading to **104 poster presentations** and one journal article.



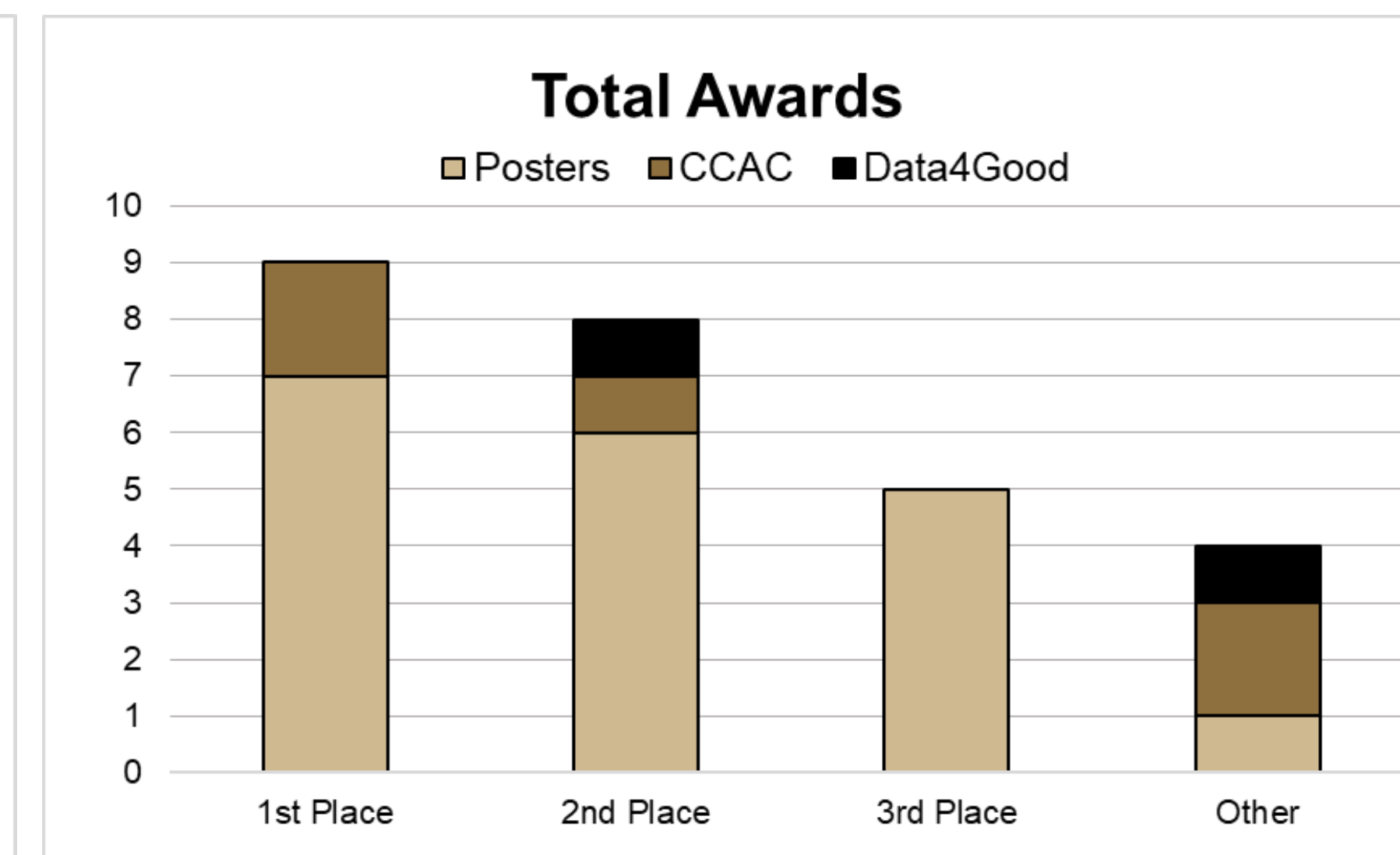
These activities were a part of our application for the **2023 UPS George D. Smith Prize**, which was awarded to the top analytics program at preparing students to be effective analytics practitioners.



FOOD FOR THOUGHT

- 70% of students among the nearly 1000 students that participated in the National Data4Good competition, believed they would have spent more time on the competition, and had a better project to showcase, had an instructor at their university made the competition as an integral part of a course.
- The majority of Daniels School of Business students would never put together a research poster and present it, unless they were required to from a course.
- One of the best things we can do for our students is to integrate activities such as research and competitions into our courses.

There have been a total of **26 student awards** from posters presented at the Purdue OUR events, professional conference presentations, or data competition awards.



Fall 2024 – Highest participation ever from Daniels School of Business students in the Purdue Undergraduate Research Expo with 51 poster presentations (47 from my MGMT Data Mining course)

