

The Data Mine

Experiential Industry Practicums in Data Science

ABOUT THE DATA MINE

- Residential, experiential learning community
- Data Science for All
- At West Lafayette Campus:
 - 133 majors represented
 - 30% female
 - ~800 students in AY 2021-22
 - ~1,300 students for AY 2022-23
 - ~100 students at MSIs
 - ~100 graduate students
 - 13 Learning Communities

SEMINAR (1 CREDIT)

- 1 credit hour per semester
- 8 levels (4 years)
- All content in The Examples Book
 - Publicly available at the-examples-book.com
- R, Python, SQL, bash, HPC, TB of data



CORPORATE PARTNERS

- Undergraduate and graduate students from all majors and computing backgrounds work in teams directly with partners in industry
- Teams of 5-15 students collaborate on data intensive projects via experiential learning
 - “We’re designing something our Corporate Partner will use! And we get to name it! It’s a unique opportunity and I am grateful for the experience of working on something [company] will likely use often.” ~student
- Students are mentored by industry professionals during weekly team meetings
- Teams are led by a paid team leader (typically an undergraduate student)
- Students earn 3 credit hours per semester and spend 8-10 hours per week working on the projects
- Projects last the entire academic year (August – May)
- ~70 projects in AY 2022-23 covering many domains:
 - Digital agriculture
 - Aerospace
 - Manufacturing
 - Life sciences
 - Technology
 - Finance
- All projects conclude with a poster presentation at The Data Mine Corporate Partners Symposium: datamine.purdue.edu/symposium
- “It’s literally like working with colleagues when working with you [students] – your ideas are so great, your thought processes are so wise.” ~Corporate Partner Mentor



The Data Mine Seminar (Fall 2019)

STUDENT QUOTES

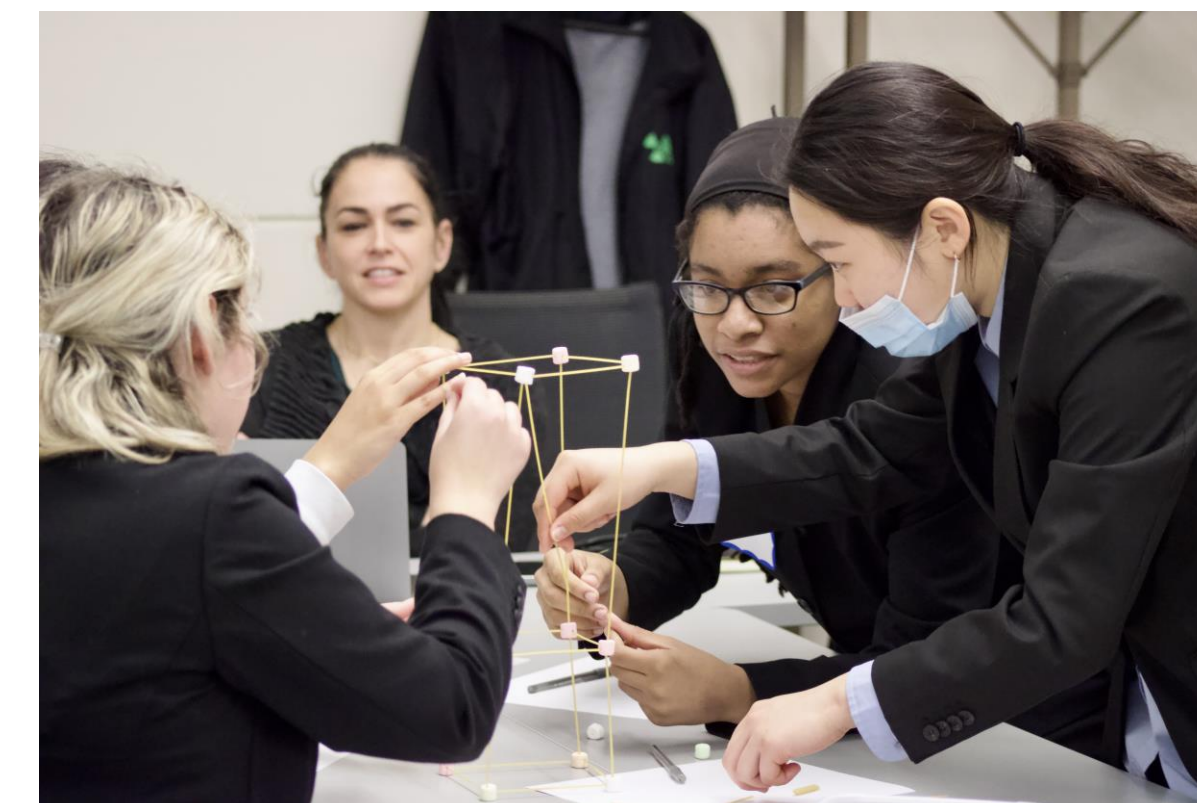
“The research project with The Data Mine has no doubt been the highlight of my undergraduate career here at Purdue.” ~senior

“One thing that has surprised me about the Data Mine Corporate Partners is how approachable everyone is. People are very knowledgeable and well informed. I can tell it’s a community that fosters growth and support; providing insight and understanding to the inner workings of an aerospace company.” ~student

“I had the chance to interact with multiple teammates, iterate over instances ..., and develop testing mechanisms. ...this project was a holistic learning experience for me.” ~student



Students visit Mursix in Yorktown, IN (Fall 2021)



Students during group interviews for TA positions (Spring 2022)



Halderman students visit local farm (Fall 2021)



Students visit Beck's Hybrids in Atlanta, IN (Fall 2021)

GRANTS

- \$10 million Lilly Endowment grant for expansion within Indiana
- \$1.5 million NSF grant for MSI students nationwide
- Additional Grants
 - National Science Foundation (NSF) grants 0939370, 1246818, 2005632, 2118329, 2123321
 - Foundation for Food and Agriculture Research (FFAR) grant 534662
 - National Institute of Food and Agriculture (NIFA) grants 2019-67032-29077 and 2020-70003-32299
 - Sandia National Laboratories; Society Of Actuaries grant 19111857
 - Cummins Inc. grants for the Indiana Digital Crossroads



Students visit Wabash in Lafayette, IN (Fall 2021)

RESOURCES & MEDIA

- Homepage: datamine.purdue.edu
- Email: datamine@purdue.edu
- The Examples Book: the-examples-book.com
- Introducing The Data Mine video: https://youtu.be/R_kqplMyhR4
- Statewide Lilly Endowment grant in IN: www.purdue.edu/newsroom/releases/2021/Q2/purdue-to-launch-indiana-digital-crossroads-with-10-million-grant-from-lilly-endowment.html
- NSF Grant for MSIs: <https://beta.nsf.gov/science-matters/developing-21st-century-data-science-workforce>