ASHESI

Masters in Intelligent Computing Systems
Machine Learning and Data Science (September 2025)

Problem Situation 4 (PROSIT 4): Telling the Story Behind the Numbers

It is a warm Monday morning on the Ashesi campus. The Provost's meeting room is full: the academic advisor, program heads, faculty, and members of the campus cohesion team are all gathered around a long table.

A few days ago, your team completed advanced predictive and exploratory work on student success patterns. The models are promising. The insights are rich. But the Provost begins this meeting with a sigh.

"We have all these findings… but no one outside this room understands them."

She turns to your team.

"We need you to help us see the story. Not just the statistics."

Around the room, there are different expectations and tensions.

- The academic advisor wants to know, at a glance, which students may need what kind of support.
- The Dean of Students worries that "the wrong visualization" could stigmatize groups.
- Faculty want clarity on which courses are stress points.
- Academic Affairs wants actionable insights for curriculum decisions.
- The Provost wants a single, coherent story she can present to the Executive team.

Everyone is looking at your team now.

This time around, you are being asked to translate months of technical work into a story that humans can understand, trust, and act on.

Your Deliverables

- 15-minute in-class presentation of a persuasive, ethically responsible data narrative that captures your key findings from working on this data set.

- Interactive dashboards to enable key stakeholders visualise and explore your key findings.

Learning Outcomes

- Apply visual design principles to create charts and dashboards that match audience needs.
- Construct a data narrative arc (context, conflict, insight, action) that turns technical findings into persuasive stories.
- Translate complex statistical/Machine Learning (ML) results into language understandable to non-experts.
- Select and justify appropriate visual encodings for quantitative versus categorical variables.
- Craft interactive deliverables that allow stakeholders to explore “what-if” scenarios safely.
- Critique the ethical and cultural implications of visual framing, and practice responsible communication.

Resources

Textbooks

Knaflic, C. N. (2015). *Storytelling with data: A data visualization guide for business professionals*. Wiley.

Reynolds, G. (2012). *Presentation zen: Simple ideas on presentation design and delivery*. New Riders.

Wilke, C. O. (2019). *Fundamentals of data visualization: A primer on making informative and compelling figures*. O’Reilly Media.

Articles

Mastering the Art of Data Storytelling: Strategies for Engaging and Impactful Narratives: https://medium.com/@dossieranalysis/mastering-the-art-of-data-storytelling-strategies-for-engaging-and-impactful-narratives-0abc25864319

Telling Effective Data Stories with Data, Narrative, and Visuals:
https://www.datacamp.com/blog/telling-effective-data-stories-with-data-narrative-and-visuals

Storytelling with Data: How to Tell Good Data Stories:
https://powerdrill.ai/blog/storytelling-with-data-how-to-tell-data-stories