Technical and Business Writing

Course instructor: Ms. Mariam Aftab

mariam.aftab@nu.edu.pk

Types of Writing

Types of writing	Example	Key Traits
• Creative/literary writing	• Poems, plays, stories • Narratives, descriptions	• Connotative and expressive, fiction, imagery, plots • Subjective, personal experience
• Academic writing	• Comparison/contrast, analysis, cause/effect, argument / persuasion	• Objective, connotative and denotative words
• Journalism	• News stories, features, editorials	• Objective, some connotative more denotative words, factual observation, short sentences and paragraphs

Types of Writing

Types of writing	Example	Key Traits
• Technical writing	• Memos, letters, reports, instructions, résumés, web pages	• Objective, focused on products or services, clear purpose, short sentences, denotative words

Types of Writing

Task: Identify the Type of Writing

1. The system compares transaction patterns using a rule-based algorithm to identify suspicious activity. Users must first upload the transaction file and then select the analysis mode. The software generates a risk score and displays flagged entries on the dashboard.
2. This paper analyses the impact of machine learning algorithms on fraud detection accuracy. A comparison is drawn between supervised and unsupervised models using performance metrics such as precision and recall. The findings suggest that hybrid approaches produce more reliable results.

Types of Writing

Task: Identify the Type of Writing

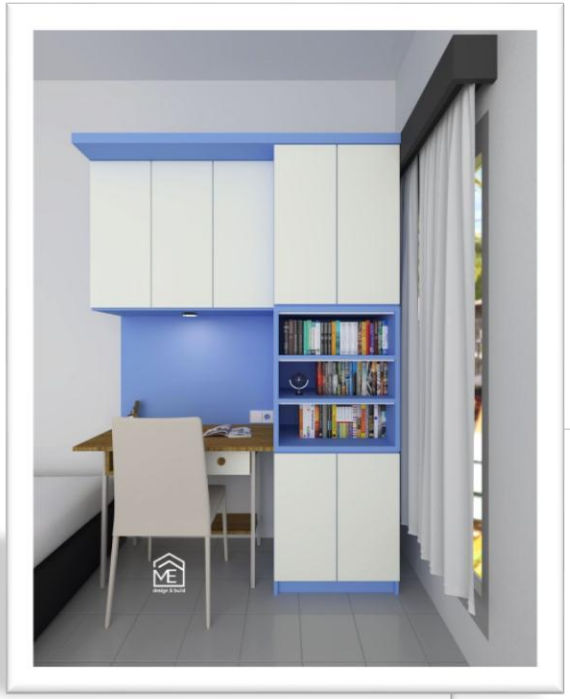
3. When Ayaan first wrote code that could think for itself, he did not realize it would change his life. The machine began to learn faster than he expected, blurring the line between control and curiosity.
4. The annual National Software Engineering Competition 2025 concluded with groundbreaking innovations from university teams across Pakistan. Students presented AI-driven solutions, cybersecurity tools, and fintech applications. The winning team from FAST-NUCES impressed judges with an intelligent fraud detection system. Experts praised the event for fostering industry-academia collaboration and encouraging tech-driven entrepreneurship.

Discussion: Assemble without instructions

If I give this to you without instructions, what will happen?

What could go wrong?

Who would be blamed: user or product?



Discussion: Same object, two descriptions

Technical Specifications for Manufacturing Tennis Shoes

The D40 Slammer Tennis Shoe will be manufactured to the following specifications:

Sole: Neoprene rubber #345 white enamelled paint 1.589" high Slammer waffle-textured©

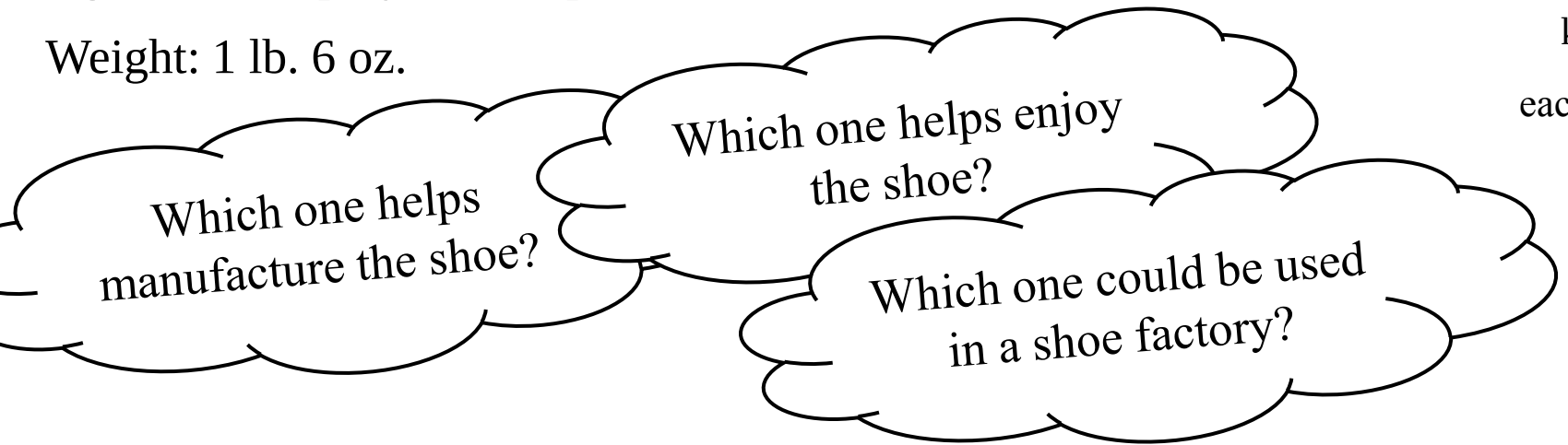
Uppers: Blue canvas

Tongue: White canvas Oval Slammer© logo heat pressure sealed, centred .50" from all sides

Laces: 15" long ,100% cotton

Aglets: Clear poly acetate plastic #290

Weight: 1 lb. 6 oz.



ODE TO A SHOE

My son's tennis shoes rest temporarily in a heap against the kitchen door,

their laces soiled, their tongues hanging out like exhausted terriers.

The soles, worn down on the insides from sliding into second,

are green, the shades of summer.

Canvas exteriors, once pristine white, are

the

colors of the rainbow—

sun bleached, mud splattered, rained on,

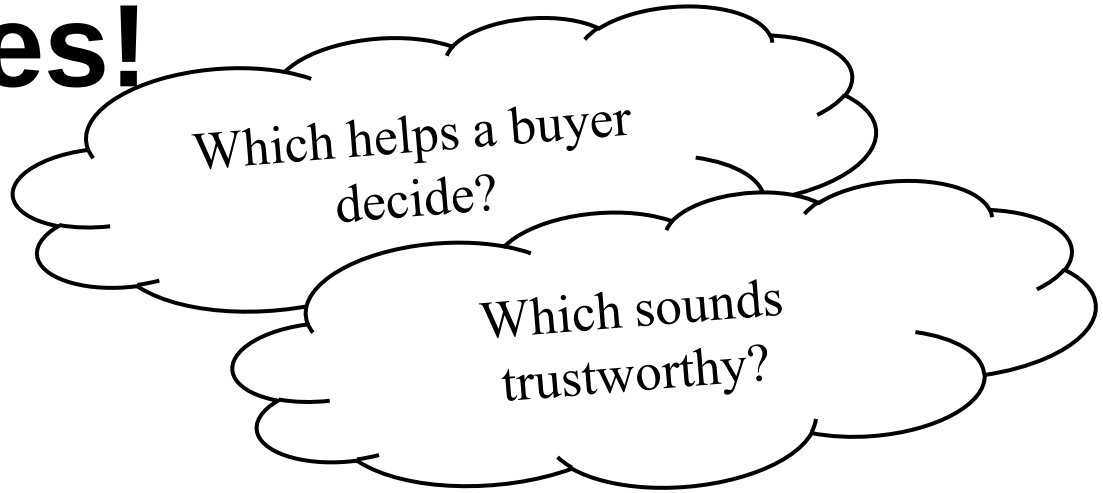
ketchup and mustard adorned,

each shoe shouting a child's joyous

exuberance: "I'm alive!"

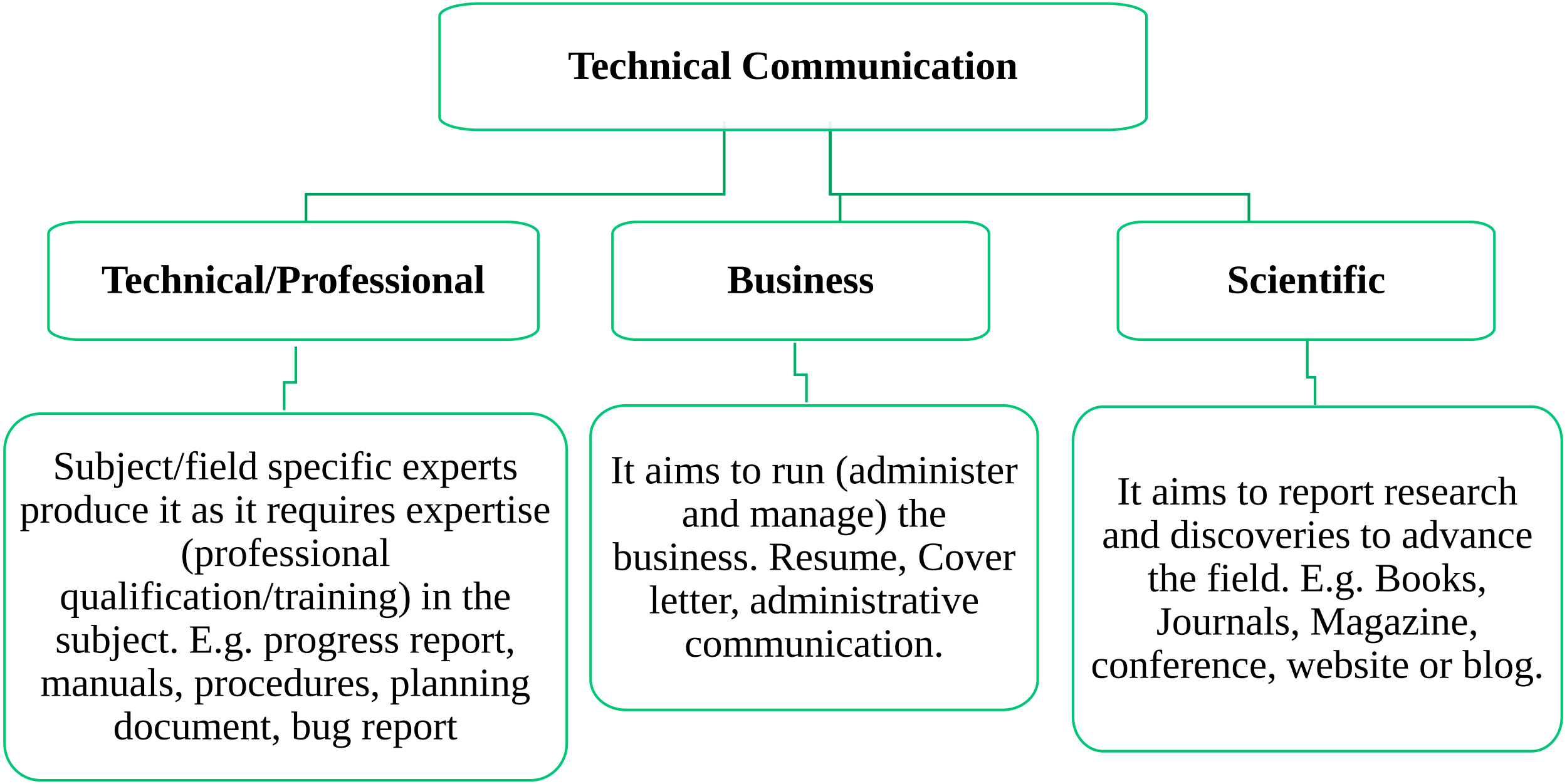
Look at these examples!

- This laptop is amazing and very fast.
- This laptop has a 3.2 GHz processor and 16 GB RAM.



An Introduction to Technical and Business Writing

Definition	• A specialized field of communication to convey technical and scientific information and ideas accurately and efficiently • It focuses on products and services: how to manufacture them, market them, deliver them, and use them (Pearson, 2013).
Purpose	• To give information (Primary Purpose) • To analyse and interpret • To persuade and influence
Style	• Objective, direct, clear, and precise


Technical Communication
Technical/Professional
Business
Scientific
Subject/field specific experts produce it as it requires expertise (professional qualification/training) in the subject. E.g. progress report, manuals, procedures, planning document, bug report
It aims to run (administer and manage) the business. Resume, Cover letter, administrative communication.
It aims to report research and discoveries to advance the field. E.g. Books, Journals, Magazine, conference, website or blog.

An Introduction to Technical and Business Writing

Major categories of Technical writing

Reports	• Formal reports, status reports, surveys, management reports, evaluation reports
Instructional	• Manuals, user guides, procedures
Legal writing	• Patents
Teaching and educational	• Research papers, theses, books, editorials, magazine articles
Day-to-day communication at workplace	• Resume, CVS, letters, memos, emails

An Introduction to Technical and Business Writing

Task: Read each scenario and identify the category of technical writing it belongs to:

1. A software development team submits a document explaining the performance, testing results, and limitations of a newly developed mobile app to senior management.
2. A company prepares a step-by-step guide explaining how to install, configure, and use its new accounting software for clients.
3. A student writes a research paper on artificial intelligence algorithms as part of a university degree requirement.
4. A project manager sends a memo to the development team informing them about a change in project deadline and revised work responsibilities.
5. A startup applies for protection of a new data encryption algorithm so that no other company can use it without permission.

An Introduction to Technical and Business Writing

Task: Read each scenario and identify the category of technical writing it belongs to:

6. A system analyst prepares a document describing the feasibility, cost, and expected benefits of moving company data to cloud servers.
7. A technical trainer creates lecture slides and course material to teach employees about cybersecurity best practices.
8. A software engineer writes an email to HR attaching his CV and requesting approval for a technical certification course.

Writing in Computer Science

Types of Documents

Project Proposals	Project Overview Specifications (POS)	Software Project Management Plan (SPMP)	Software Requirement Specification (SRS)	Software Design Specification (SDS)
System Test Specification (STS)	User Manuals	Code Comments	Memoranda	Simple Technical Information Report

Technical Evaluation Report	Technical Recommendation Report

Writing in Computer Science

Group Activity

- Divide into twelve groups.
- Assign document type
- Take 5 minutes to explain the document type with one sample document (Use AI tool)

Your 2- minutes presentaion must include:

- Definition
- Purpose
- Sample Document

Key Principles of Effective Technical Writing

Clarity and organization

- Explain what the system does
- Show how it is different
- Describe result and future work

AI must not invent features, results, or achievements.

Where AI can be used

- ✓ Improving sentence clarity
- ✓ Simplifying complex explanations
- ✓ Checking if content is understandable for non-technical readers

Where AI should not be used

- Deciding what your system does
- Claiming results, you did not achieve
- Writing core ideas, analysis, or conclusions

Key Principles of Effective Technical Writing

Logical Structure

- Ability to summarize in logical sequence
- Similar to program logic
- Poor organization lead to misunderstanding

If you cannot explain it orally, do not submit it in writing.

Where AI can be used

- ✓ Checking logical sequence of sections
- ✓ Suggesting better headings
- ✓ Identifying missing steps in explanation
- ✓ Reviewing transitions between sections

Where AI should not be used

- Designing algorithms
- Creating project logic, you don't understand
- Explaining program flow you cannot justify

Key Principles of Effective Technical Writing

Mechanics and accuracy

- Correct grammar and syntax are essential

Mechanics can be corrected by AI; meaning must come from you.

Where AI can be used

- ✓ Grammar and spelling checks
- ✓ Sentence structure correction

Where AI should not be used

- Writing entire documents with no personal input
- Submitting AI-generated content as original work