Roles

Systems Analysis

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Outline

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Business Analyst

- Skills:
  - Strong analytical and problem-solving skills.
  - Excellent communication and interpersonal skills.
  - Business process modeling and documentation.
  - Data analysis and interpretation.
  - Requirements gathering and management.
  - Stakeholder management.
- Responsibilities:
  - Analyzing business processes and identifying areas for improvement.
  - Gathering and documenting business requirements.
  - Collaborating with stakeholders to define project scope and objectives.
  - Creating and maintaining project documentation, such as functional specifications and use cases.
  - Facilitating communication between business users and technical teams.
  - Participating in system testing and user acceptance testing.
  - Providing support and training to end users.

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Software Developer (Engineer)

- Skills:
  - Strong analytical and problem-solving skills.
  - Excellent communication and interpersonal skills.
  - Proficiency in programming languages and software development tools.
  - Knowledge of software development methodologies.
  - Ability to work independently and in a team environment.
- Responsibilities:
  - Designing, coding, and testing software applications.
  - Collaborating with other developers to design and implement new features.
  - Troubleshooting and debugging software applications.
  - Writing clean, maintainable code.
  - Documenting software specifications and user manuals.
  - Providing support and training to end users.

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Software Tester

- Skills:
  - Strong analytical and problem-solving skills.
  - Excellent communication and interpersonal skills.
  - Knowledge of software testing methodologies.
  - Ability to work independently and in a team environment.
- Responsibilities:
  - Developing test plans, test cases, and test scripts.
  - Executing test cases and reporting defects.
  - Collaborating with developers to resolve defects.
  - Automating test cases using testing tools.
  - Documenting test results and providing feedback to stakeholders.
  - Participating in system testing and user acceptance testing.

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Data Engineer

- Skills:
  - Strong analytical and problem-solving skills.
  - Excellent communication and interpersonal skills.
  - Proficiency in programming languages and data processing tools.
  - Knowledge of data modeling and database design.
  - Ability to work independently and in a team environment.
- Responsibilities:
  - Designing, building, and maintaining data pipelines.
  - Extracting, transforming, and loading data from various sources.
  - Developing data models and database schemas.
  - Optimizing data storage and retrieval.
  - Collaborating with data scientists and analysts to support **data-driven decision-making**.
  - Monitoring and maintaining data quality.

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Machine Learning Engineer

- Skills:
  - Strong analytical and problem-solving skills.
  - Excellent communication and interpersonal skills.
  - Proficiency in programming languages and machine learning frameworks.
  - Knowledge of data modeling and statistical analysis.
  - Ability to work independently and in a team environment.
- Responsibilities:
  - Developing machine learning models and algorithms.
  - Collecting, cleaning, and preprocessing data.
  - Training and evaluating machine learning models.
  - Deploying machine learning models to production.
  - Collaborating with data engineers and analysts to support **data-driven decision-making**.
  - Monitoring and maintaining machine learning models.

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Data Scientist

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- Responsibilities:
  - Collecting, cleaning, and preprocessing data.
  - Analyzing and interpreting data to identify trends and patterns.
  - Developing predictive models and algorithms.
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DevOps / Site Reliability Engineer

- Skills:
  - Strong analytical and problem-solving skills.
  - Excellent communication and interpersonal skills.
  - Proficiency in programming languages and automation tools.
  - Knowledge of software development and IT operations.
  - Ability to work independently and in a team environment.
- Responsibilities:
  - Automating software development and deployment processes.
  - Monitoring and maintaining system performance and reliability.
  - Troubleshooting and resolving system issues.
  - Collaborating with developers to improve system performance and reliability.
  - Implementing security best practices.
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Technical Leader

- Skills:
  - Strong technical skills and expertise.
  - Excellent communication and interpersonal skills.
  - Ability to mentor and coach team members.
  - Knowledge of software development methodologies.
  - Ability to work independently and in a team environment.
- Responsibilities:
  - Providing technical guidance and support to team members.
  - Setting technical direction and standards for the team.
  - Reviewing code and providing feedback to team members.
  - Resolving technical issues and challenges.
  - Collaborating with stakeholders and senior management.
  - Ensuring technical quality and best practices are followed.

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  - Ensuring technical quality and best practices are followed.

Team Leader

- Skills:
  - Strong leadership and management skills.
  - Excellent communication and interpersonal skills.
  - Ability to motivate and inspire team members.
  - Knowledge of software development methodologies.
  - Ability to work independently and in a team environment.
- Responsibilities:
  - Leading and managing a team of software developers.
  - Setting project goals and objectives.
  - Assigning tasks and monitoring progress.
  - Providing guidance and support to team members.
  - Resolving conflicts and issues within the team.
  - Communicating with stakeholders and senior management.
  - Ensuring project deadlines and quality standards are met.

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What is to be a leader? I

- Leading a team is not a role. It is a decision, you could be a **leader** `anytime and anywhere`.
- Teamwork culture is pretty important. It creates `habits`, `open communication`, `safety spaces` for inclusion.
- Psychological safety is a key point to have an effective team. You could develop technical skills, but `it is not enough`.
- Hierarchy is very important. Anarchism tends to fail. Hierarchy exists by **status** and **power**.
- In a hierarchy experts lead to make **better decisions**. However, anyone must be careful to `not leave people behind`.

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What is to be a leader? II

- With crystal communications and clarity on business goals, achievements, the people feel more comfortable to pursuit same goals as a **team**.
- A good leader must think in outcomes more than in outputs. It helps to always bring **business value** over complete tasks.
- Failure is always an option. Learn how to deal with bad moments, not punish, just fix and learn.
- Someones think you born as a leader. Another ones think a leader could be created with the time. Either way, **context** and **self-desire** to growth are vital.
- Make ethical decisions is a key, it leads to take right and **better decisions**.

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What is to be a leader? III

- It is important to always be psychological well-being. You will be more stronger, could help people, and have a better point of view of everything.
- A good leader built trust relationships, also have emotional intelligence to comunicate and read the others.
- To develop a s a leader one good role are the three C's: Curiosity, Courage, Commitment.

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Thanks!

Questions?

Repo: *https://github.com/EngAndres/ud-public/tree/main/courses/systems-analysis*

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