Annex A: Data Science Team Experience Levels

The following terms are used when generally referring to levels of experience for a given role. These levels are not meant to be used as part of the proficiency for any given competency, and are instead a way for the team to have a common language when working together.

Foundation

An inexperienced person who is starting in their data science career. This person will generally require more supervision than either an intermediate or advanced person, and is assigned tasks in a more junior capacity. This person would be a recent graduate or a junior level person in the organization.

Intermediate

Most working level individuals will fall into this role. This person has some project management responsibility, and is comfortable working as a data scientist on a broad range of projects. They require little supervision within a project team, and can be trusted to research and implement methods/techniques with limited consultation from more senior roles.

Advanced

Senior or lead data scientist. This person has a significant level of expertise in data science, and is comfortable leading large and complex projects. They act as an advisor to other data scientists, and provide consultation to clients on proposed projects.

Annex B: Proficiency Levels

Below the competency definition, you will see numbered columns which identify the proficiency level required for each experience level. These numbers refer to behavioral expressions of the competencies. The levels are incremental and additive, which means that any one level is usually inclusive of all other preceding levels. The scale and accompanying levels are used to select the desired level of proficiency necessary for a given position.

Levels

Level 1	Level 2	Level 3	Level 4
Knowledge gained through academic experience. Little practical experience	Practical experience, potentially gained through co-op or some other real world application.	Demonstrates a depth of knowledge, but may lack breadth.	Demonstrates both depth and breadth of knowledge, as well as cross domain expertise.

Understands concepts, but has little experience or opportunity to apply it. Knows where to go to find answers.	Has a comprehensive knowledge of the area, and some experience in applying it.	Has a great depth of knowledge and considerable depth in applying it.	Brings knowledge from other areas to the field.
Works independently. Completely assignments without constant supervision.	Works persistently as needed and when not required to do so.	Demonstrates great depth and breadth in applying skill/ability, usually through insightful thinking.	Identifies opportunities to add value to the business, future work, better methods beyond the problem at hand through proactive engagement of internal and external stakeholders and partners.
Has a clear understanding of application of the skill/ability.	Demonstrates the skill/ability that meets requirements of the position. Work rarely needs adjustment.	Defines and addresses high level challenges that have the potential to advance state-of-the-art in an area.	Very innovative and creative in use of ability/skill, bringing new level of excellence.
Offers ideas to address current situations or issues	Looks for ways to achieve greater results or add value	Takes action to avoid/minimize potential problems or miximize potential opportunities by drawing on extensive personal experience.	Incorporates a data culture through participation in working groups, presentations, and generally spreading awareness of data science.
Recognizes and acts on present issues	Takes action to avoid imminent problem or to capitalize on imminent opportunity.	Looks to the future	Coaches others to spontaneously recognize and appropriately act on upcoming opportunities.
Addresses current issues	Addresses imminent issues		Fosters an environment that anticipates and acts upon potential threats and/or opportunities.
			Encourages initiative in others

Definitions

Experience

Refers to time spent putting theoretical knowledge into practice.

Academic experience

Refers to experience gained through course work, usually in a constrained setting with synthetic data.

Practical experience

Refers to experience gained in on job settings, either through student placement (co-op, etc) or as part of an employment contract.

Depth of knowledge

Refers to the complexity of understanding required to appropriately respond to the problem at hand.

Breadth of knowledge

Refers to the diversity of domains (NLP, reinforcement learning, graph networks, etc) from

which knowledge can be applied to the problem at hand.

Cross domain expertise
: Refers to the ability to draw on other professional domains to solve problems. For example, using concepts from computer networks to solve graph routing problems.