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DATA SCIENCE FOUNDATIONS

SEPTEMBER 28 - OCTOBER 13
WEEKENDS ONLY
3:30 PM - 5:30 PM
MYNT XLC, ANAND NIKETAN

FACILITATOR : DHIRAJ KHANNA

CAPSULE OVERVIEW

The Data Science Foundations capsule has been carefully prepared and curated by MyNT with an aim to introduce the exciting and rapidly changing field of Data Science.

The capsule will assist the participant to learn the building blocks of data science in a fast, fluent and fun manner. The following will be the learnings from this course:
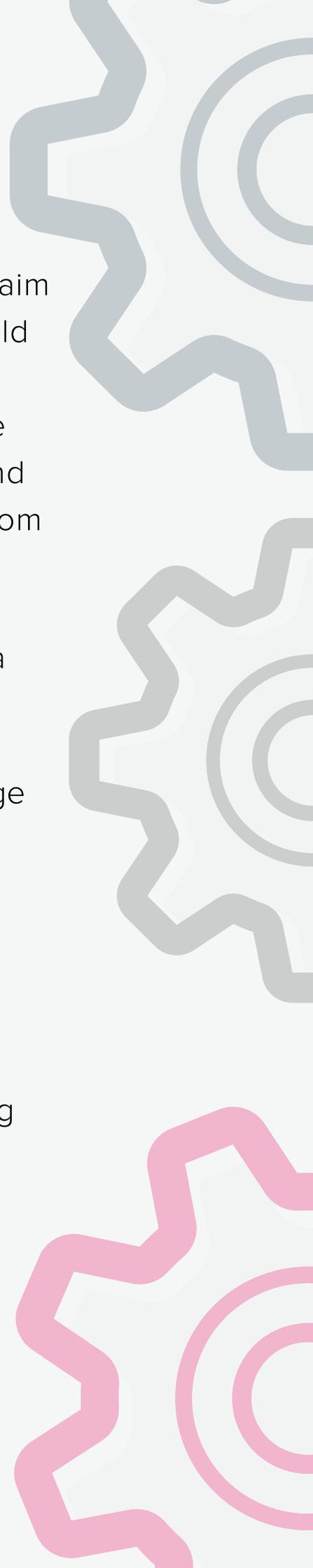
Wrangle - You will learn to transform your data into a form suitable for analysis.

Program - The capsule will teach you how to leverage powerful programming paradigms to solve data problems with ease and clarity.

Explore - You will learn to quickly examine your data, build hypotheses and test them.

Communicate - You will learn the tools for integrating prose, code and results

By the end of the capsule, you will build a data-driven web application to convey your analytical findings.

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FACILITATOR AND MENTOR

DHIRAJ KHANNA

Data Science Mentor, Springboard
Co-founder, Pythian Technologies

Dhiraj spent over 20 years in the Indian Navy designing wireless data links for military applications. Hailing from a statistical signal processing background, he now runs his own tech startup aimed at providing insights from data to military, intelligence and private organizations.
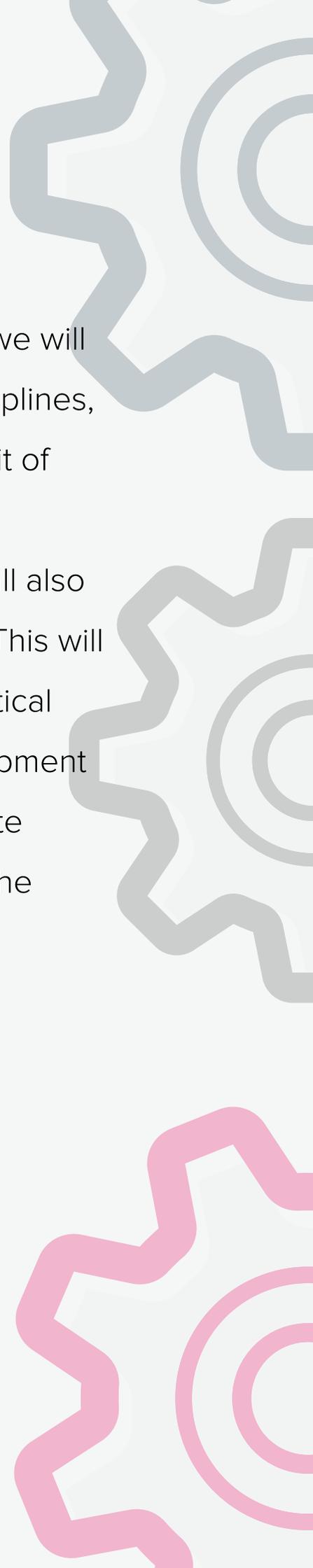
Additionally, he mentors students at Springboard, an online learning platform for data science. So far he has mentored over a 100 students currently employed in various data science roles, the world over.

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CAPSULE CONTENTS

Day 1

A brief look at the data science landscape is what we will start with. We shall have a look at the different disciplines, tools and technologies which come under the ambit of data science.

Since this is a hands-on interactive capsule, we shall also setup the environment on your laptops to work in. This will comprise of downloading and installing the R statistical programming language, RStudio integrated development environment, Git for version control and the requisite libraries and packages that would be used during the capsule.

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CAPSULE CONTENTS

Day 2

"There is no such thing as information overload. There is only bad design." – Edward Tufte

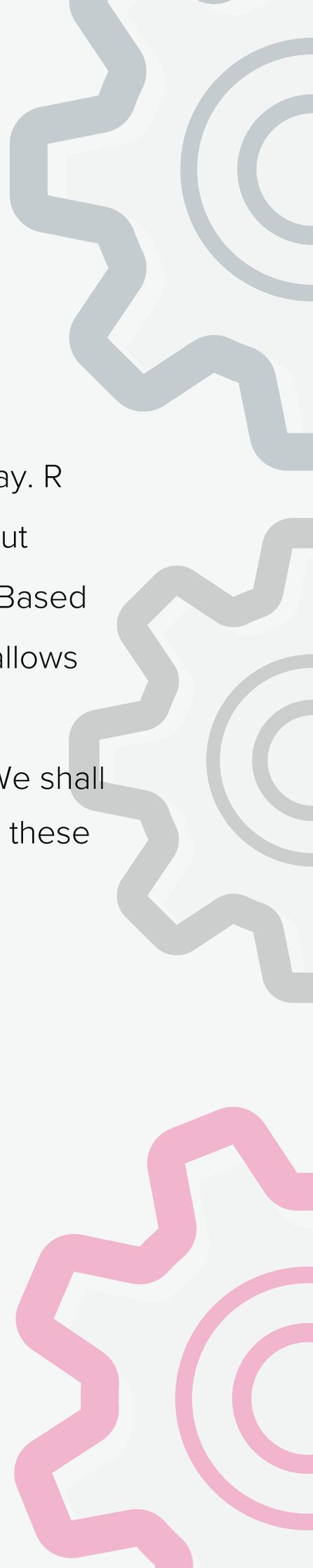The power of visualization is what we will learn today. R has several systems for making graphs and plots, but ggplot2 is perhaps the most elegant and versatile. Based on the layered grammar of graphics, this package allows us to visualize data in most ways conceivable.

We will take a dataset and ask questions about it. We shall then learn how to use the ggplot2 library to answer these questions graphically.
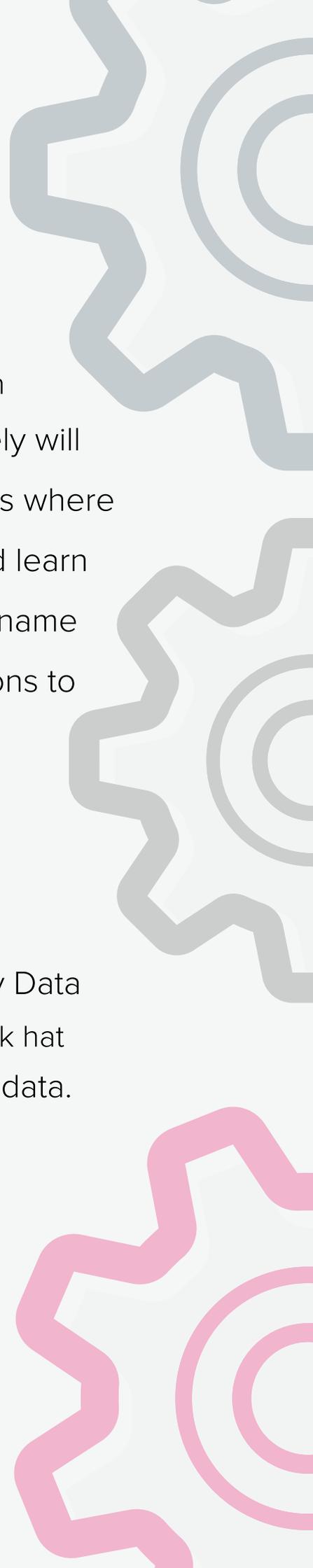
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CAPSULE CONTENTS

Day 3

While ggplot2 is the grammar of graphics, dplyr is the grammar of data manipulation. In this class we will learn the powerful 'verbs' of the dplyr package. Very rarely will we get data which is clean and fit for analysis. That's where dplyr helps. We shall work with a flights dataset and learn to create new variables, aggregated summaries, rename and reorder variables and many more transformations to make our data more pliable for analysis.

Day 4

Armed with the knowledge of visualization and data transformation, day 4 would be spent in Exploratory Data Analysis or EDA. This is where you will don the Sherlock hat and ask questions and test hypotheses about your data.

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CAPSULE CONTENTS

Day 5 & 6

The last two days is when you will learn to present your data and analysis to a wider audience. In these two days, we will be building a full fledged web application which will be able to extract data using APIs.

We will use the Shiny package in R to build a web application which will also show us network analysis between various characters from Marvel comics.

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FAQ'S

Q. Do i need to bring any equipment for the capsule?

A. Yes, your wi-fi enabled laptop. The operating system could be Windows, Linux or MacOS.

Q. Do I need any previous knowledge in programming or statistics for this capsule?

A. No. The capsule course is designed to get you doing data science as quickly as possible with no assumption of previous programming experience.

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