SHAPE THE DIGITAL FUTURE

"My experience at BTS is happy, successful, and productive!"

Polina Severina
Russia, BTS Student.
Web Developer - Accenture

"Definitely recommended, the teachers are really qualified, the program is really solid"

Andrea Amorosi
Italy, BTS Student.
Functional & Industry Analytics Analyst - Accenture

"BTS has been enlightening. It has opened a whole new door for me"

Franco Bonifetto
Argentina, BTS Student.
Growth Hacking - Barcelona Tech

"A dynamic and hands-on Masters compared to other programs"

Sereen Masri
U.S., BTS Student.
Product Owner - Nuvolar

"BTS will give you the broadest skills you can get"

Damien Dupont
France, BTS Former Student.
Product Analyst - Leadtech Group

"The knowledge we gain is very applicable to real life"

Rebecca Li Wing
China, BTS Former Student.
Test Engineer - Test-Cloud

Master awarded by Barcelona Technology School and the University of Barcelona

BTS | **Barcelona** Technology School

UNIVERSITAT DE BARCELONA

Master in

Big Data Solutions

Boost innovation with analytics and big data opportunities. Become an international professional able to discover insights and drive innovation in any organization.

Welcome to BTS

Enabling people to shape the digital future

If you're passionate for technology and want to contribute to drive the digital transformation, Barcelona Technology School is your place.

The digital ecosystem in Barcelona is now warmer than ever. The strategic alignment of the government, the industry and educational institutions like BTS, are mixing the best ingredients to boost the European capital of innovation.

The result of Barcelona's digital strategy is excellent: international companies are landing in Barcelona to relocate their digital and tech headquarters and open professional opportunities for those who are ready.

Josep Clotet
General Manager

1#
University of Barcelona
Ranked #1 in Spain

45+
Countries. Student
International Diversity

50%
Tech & Business
Background Participants

45%

Women
Gender Diversity

98%

Student
Employability rate

Double degree programs:

BTS | Barcelona
Technology School

UNIVERSITAT DE
BARCELONA

Strategic Advisory Board

Sudha Jamthe
Silicon Valley

Marko Gargenta
San Francisco

Ricardo Baeza
Silicon Valley

Aleix Valls
Barcelona

C. Mastrodonato
London

Angel Garcia
Barcelona

The members of the BTS Strategic Advisory Board are industry leaders with wide experience managing strategic digital projects in companies such as Ebay, Twitter, Yahoo, Mobile World Capital, Konica Minolta or StartupBootCamp.

This Team helps Barcelona Technology School to take care of the quality and contents of the programs.

Academic Directors

Sandro Mancuso
London

Marie Glad
Stockholm

Eduard Gil
Barcelona

Ravi Daswani
London

C. Mastrodonato
London

Aleix Valls
Barcelona

Lead Professors

Lali Soler
Data Driven Business

Marc Planagumà
Big Data

Richard Lagrand
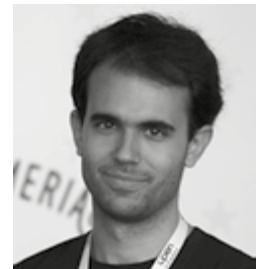Entrepreneurship

Miquel Rodríguez
Agile

Carles Mur
Creative Technology

Marta Ruiz
Artificial Intelligence

Víctor Pascual
Data Visualization

Juan L. Cano
Data Science Foundation

Liesner Acevedo
Real-time Data Analysis

Pau de Jorge Aranda
Classical Data Analysis

José Luis Muñoz
Cybersecurity

Marc Cardús
Infrastructure

Joana Simoes
Advanced Data Analysis

Xavier Giró
Artificial Intelligence

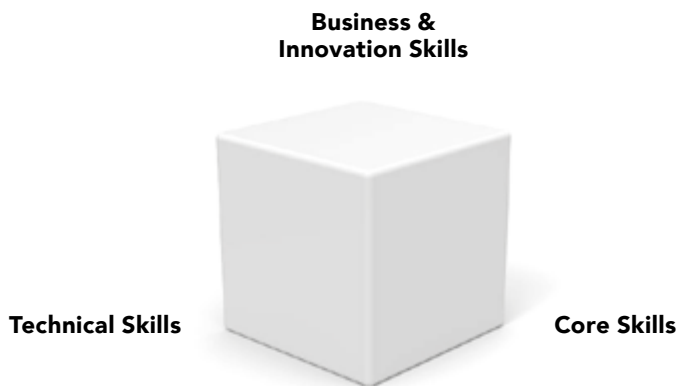**Victoria Yasinetskaya**
Fintech

Juan Hernández
Cybersecurity

View more at: www.barcelonatechnologyschool.com

3D Learning
Methodology

Barcelona Technology School has developed its own practical, active and participatory methodology with emphasis on "learning by project" where participants generate their own digital solutions.

Business & Innovation Skills

Technical Skills **Core Skills**

This methodology reflects digital industry demand for new professionals with skills such as:

Technical Skills

Web Development
Mobile Development
User Experience
Big Data
Machine Learning
Cloud Computing
Internet of Things
Cyber Security
Software Craftsmanship
Blockchain

Business & Innovation Skills

Digital Transformation
Digital & Mobile Business
Creative Technology
Innovation
Entrepreneurship
FinTech
Legal Tech
Change Management
Digital Talent & Culture

Core Skills

Empathy & Communication
International Scope
Flexibility
Collaboration & Network
Transversal Vision
Curiosity
Compromise & Responsibility

BTS Ecosystem

Industry Immersion

Barcelona Technology School has assembled an ecosystem of companies that supports BTS programs, providing industry exposure and bringing professional experience to the students through internships and job opportunities.

Project Mentors
Real & experienced professionals will mentor your digital projects

Digital Companies
Get professional orientation for your digital career

University of Barcelona
Ensures academic accreditation, quality and certification

Academic Board
High qualified instructors and well-known professionals

Career Mentors
Visit and learn from the tech leaders

Entrepreneurs & Incubators
Inspire your own projects and new disruptive digital business

Digital Labs &I+D+i
Digital Labs & innovation projects exposure

SHAPE THE DIGITAL FUTURE

Some of the companies that support BTS and enroll our students:

Startupbootcamp · hp · accenture · eurecat *Technology Centers of Catalonia* · MOBILE WORLD CAPITAL BARCELONA

Generalitat de Catalunya · everis · ntent · ALTRAN · Ajuntament de Barcelona

iCEX *INVEST IN SPAIN* · PAL ROBOTICS · learnlight · [ııı] netmind · STRANDS

capside · nae_ *doing ahead* · BIGDATACoE · 4YFN · cornerjob

MERKLE COMET · ZINIO · EF *Education First* · naturitas · softonic

mytaxi · Inno Cells · GFT · Glovo · Pier01 *BARCELONA TECH CITY*

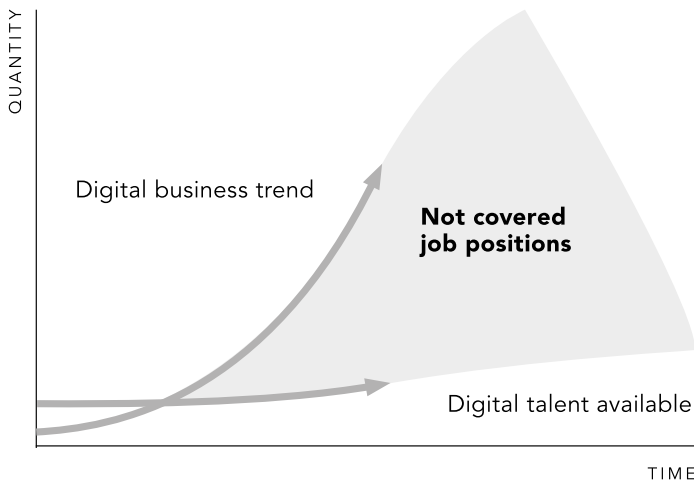Kernel analytics · marketeer · nuvolar · PICCADILLYLABS · Typeform

Professional Experience

Digital companies need your talent

Tech industry is exploding and the key digital companies need your talent. Barcelona Technology School connects your career with the digital sector while offers you the most demanded digital knowledge & skills.

Digital Talent Gap

Need of talent ready to shape the digital future

By **2024** there will be **4.500.000** unfilled digital jobs worldwide

Source: Bureau of Labor Statistics' Occupational Outlook, Handbook and Career Guide to Industries.

PAID INTERNSHIPS & JOB OPPORTUNITIES
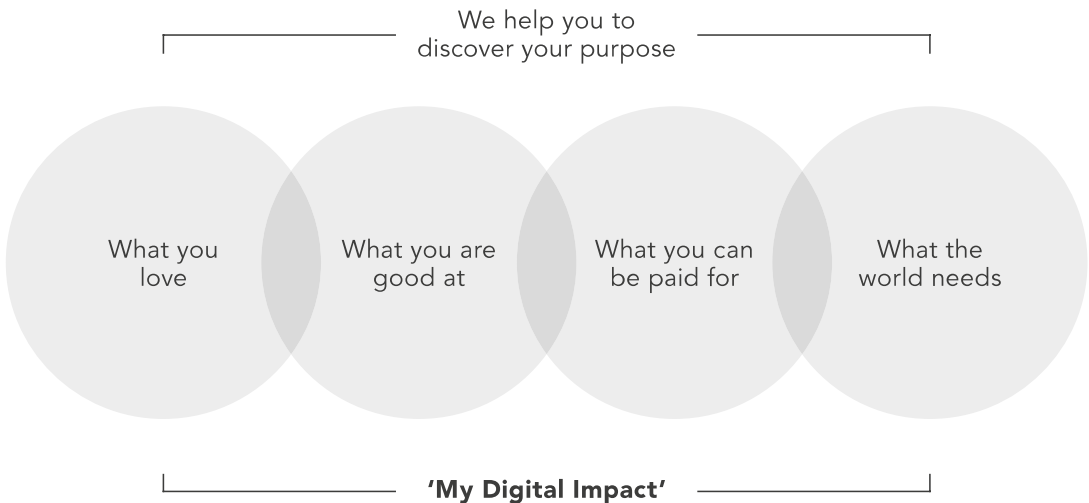
Your
Talent

BTS

Digital
Industry

My Digital Impact

Having a purpose for professional happiness

A Team of mentors will help you to define your own purpose according to what you love, what you are good at, what can you be paid for and how you can improve the world with such amazing skills.

This ensures you focus your energy on a job you really love, which is the best way you can drive a great digital impact.

IKIGAI

We help you to
discover your purpose

What you
love

What you are
good at

What you can
be paid for

What the
world needs

'My Digital Impact'

We help Barcelona Technology School students to achieve their professional goals and find happiness in life doing what they love the most.

This is driven by a japanese concept called IKIGAI, which describes the secrets for a long and meaningful life. To achieve this goal you have to identify your reason for being and your own purpose.

BTS will help you to find your IKIGAI and a Team of mentors will advice you during this exciting journey that will boost your digital impact on the society.

My Digital Impact
Mentors

BTS mentors are generous people that believe in the power of sharing. They will be happy to offer you their vision and wide experience as digital leaders in top global tech companies. Get advice from digital sages that will help you to drive your purpose and develop a great career in the digital industry.

Get advise from international digital leaders

Sudha Jamthe
Silicon Valley

C. Mastrodonato
London

Charles Ikem
Padova

Susanna Maier
Berlin

Marti Escursell
Barcelona

Ravi Daswani
London

Saul Tessler
New York

2018 - 2019 Mentors. A Team of professionals with experience leading digital projects in companies such as:

Google   ebay   facebook   accenture   amazon   KONICA MINOLTA

Sports
Student sport activities

All the BTS students enrolled into a Master program have free access to one of the best sport clubs in the city which is located right in front of the beach. Enjoy indoor and outdoor swimming pools, gym and lead classes, spa, paddle courts and much more. Play sports, make friends or simply take a relaxed bath on the sea.

Swimming pools

Fitness room

Lead activities

Paddle courts

Spa

Beach access

Club activities:

Global Chapters

New York · Shanghai · San Francisco · Silicon Valley

The Global Chapters programs are an international experience for students & entrepreneurs that want to discover the epicenters of the world's digital ecosystems.

CHAPTER 1

CHAPTER 2

CHAPTER 3

New York

1 Week
English
December
3.000 €

Shanghai

1 Week
English
April
3.000 €

San Francisco & Silicon Valley

2 Week
English
July
5.000 €

This experience exposes students to how business is done in those ecosystems and creates long lasting relationships between students, companies, and business leaders.

Sample Week Itinerary:

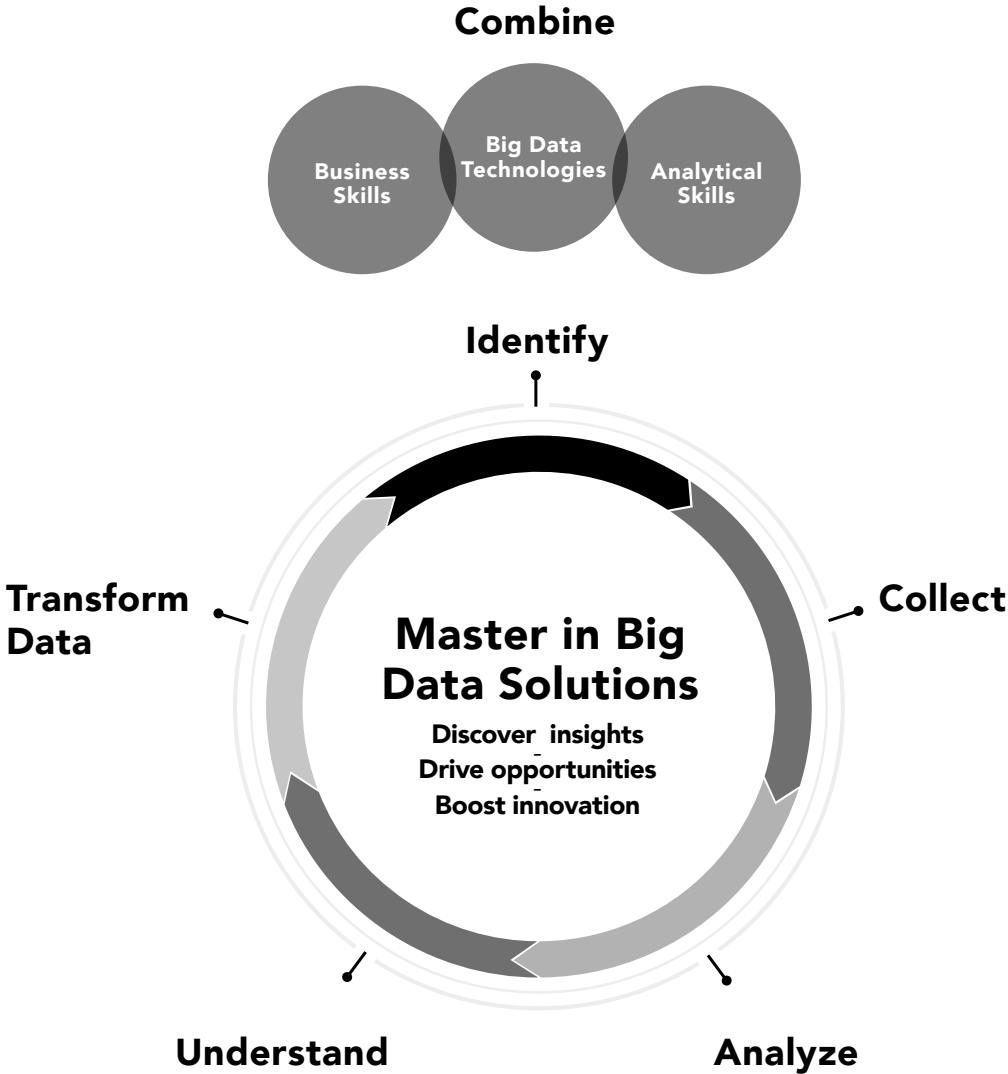| MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
Visit large digital corporations	Tour in Silicon Valley	Entrepreneurship culture immersion	Visit the Palo Alto Research Center	Network building	Private VC and Startup parties	Free
Meals with digital leaders						

Students visit companies like:

Master in Big Data Solutions

Become an international professional able to discover insights and drive innovation in any organization.

Master in Big Data Solutions

Combine

Business Skills

Big Data Technologies

Analytical Skills

Identify

Collect

Transform Data

Master in Big Data Solutions

Discover insights
Drive opportunities
Boost innovation

Understand

Analyze

4,4 M
Jobs created by Big Data

Health care, Finance, Technology,
Public Administration, Internet of Things, Marketing…

Source: Gartner

Contents
Master in Big Data Solutions

Data-Science Foundations
During the subject the students will learn how to manage data, perform time series analysis and forecasting in Python. They will learn how to fit data to probability distributions and regression models, use Python/Pandas to perform general statistical analysis in their data, apply appropriate and useful Geographic Information System (GIS) tools and Geostatistics in Python to find spatial data patterns.

Innovation & Creative Technology
Students will experience the process of discovery, interpretation and ideation. They will learn techniques to identify opportunities and understand customer needs. They will integrate the process of conceptualization and creative design that will help them design innovative digital solutions.

Classical Data Analysis
Students will learn analytical skills and the most important supervised and unsupervised learning algorithms for regression, classification and clustering, to apply them to an analytic or business intelligence strategy. They will learn how to use Python libraries to run these data mining algorithms and use the trained models for prediction.

Infrastructure for Big Data
Students will learn how to use software for managing large amounts of data and fast data streams, particulary focusing on distributed systems for storage and processing data with an emphasis on the open source. They will learn how to design efficient system architectures to capture, process and store Big Data, as well as the best practices in provisioning, deploying, tuning and maintaining Big Data systems.

Data Driven Business
The students will understand how big data projects can bring value to an organization, how data can be applied to solve real business problems because of the large amounts of data available generated by digitalization. Student will also develop communication and persuasion skills, since data results and projects usually have to be given and carried out in a company context.

Advanced Data Analysis
As a continuation of the Classical Data Analysis module, this one will develop the skills to deal with complex data types such as a "basket" (a set of elements like a shopping cart), a network/graph, or georeferenced data. Students will learn different methods to analyse each data type, like association rules mining, algorithms, georeferencing, creation of maps and location-aware models.

Contents can be modified according to the needs of the program.

Big Data Legal & Security

Students will learn what are the legal barriers of the data management and the core security principles in a Big Data project, including confidentiality, integrity and availability (CIA). They will also learn the principles behind symmetric and asymmetric cryptography and they will apply them by building an end-to-end security implementation for a corporate network.

Artificial Intelligence

Students will learn how to use artificial neural networks in data analysis projects. They will learn methods for training neuronal networks, modern neural network architectures and frameworks, text classification and image classification.

Entrepreneurship

Students will learn to shape opportunities, provide the leadership and build the team to create economic and social value. They will create and develop business models for start-ups based on customer development and continuous validation, managing financial metrics and dealing with investors.

Data Visualization

The students will learn the skills necessary to explain the processes they performed with the data, including the entire data analysis pipeline, and the obtained results, in an effective and clear way to a broad audience. This includes being able to communicate all assumptions and nuances that this may have. Data visualization paradigms will be introduced and explored in the context of storytelling, describing how to use them to convey complex data-driven messages.

Real-time Data Analysis

Students will learn the specialized data management infrastructures and algorithms needed to deal with challenging data sources. They will learn distributed algorithms, which are specifically designed for large-scale data being processed in a parallel/distributed computing environment. They will also perform operations in data streams, including clustering data, and use the map-reduce paradigm in a distributed setting.

Agile

The students will immerse in the Agile mindset by experimenting the Agile management practices. At the end of this subject they will be able to practice Scrum, understand Kanban, develop and idea from Vision to Deployment from an Agile perspective and define requirements with User Stories.

Contents can be modified according to the needs of the program.

Summary

Master in Big Data Solutions

TYPE	LOCATION	DURATION	LANGUAGE
Full Time Master degree	Barcelona, Spain	9 months (1 academic year)	English

ACCREDITATION	CREDITS	INTAKE	FEES
Barcelona Technology School and University of Barcelona	60 ECTs	October	17.000€

Paid Internships & Digital Jobs:

BTS connects students with leading digital companies. Take advantage of the BTS ecosystem and explore professional opportunities during & after the program.

BTS | **Barcelona** Technology School   UNIVERSITAT DE BARCELONA

Master awarded by Barcelona Technology School and the University of Barcelona, ranked best university in Spain by:

Academic Ranking of World Universities. 2017

QS World University Rankings, WUR. 2017

Center for World University Rankings. 2017

Best Global Universities. 2017

Pre-Course
Introduction to Software Development

For entry students without technical background that want to enroll the Master in Big Data Solutions.

TYPE	STARTS	DURATION	FEES
Full time	September	4 weeks	2.200€

Technology background is not mandatory

Contents

Introduction to programming with Python

Working Environment

Programming good practices
1. Pandas Python Library
2. Introduction to Statistics and Probability

My first development project
1. Hands on work

The aim of this course is to provide the base knowledge that any student needs to enroll the Master in Big Data Solutions.

How to apply

Master in Big Data Solutions

If you are passionate about Big Data and you would like to access to job opportunities, develop the best digital talent and have a master experience in Barcelona… we just need from you:

1 Application Form

www.barcelonatechnologyschool.com

2 Motivation Letter & CV

Send the admissions office your CV as well as a motivation letter explaining how you think the digital industry will be in the next five years and how you could contribute to the digital transformation.

You can submit this documentation directly by email.

✉ info@barcelonatechologyschool.com

3 Assessment

Our Admission Board, as well as the director of the program, will analyze your candidature and if you meet the profile of Barcelona Technology School, we will call you to have a chat.

"Dynamic and
hands-on Masters
compared to
other programs"

Sereen Masri
U.S., BTS Student.
Product Owner - Nuvolar

Programs awarded by Barcelona Technology School and the University of Barcelona, ranked #1 university in Spain.

98% Student employability rate

Ecosystem of top digital companies & tech labs. International environment of digital leaders from all over the world.

Development of the most demanded digital skills.

Beach & sports club, located on the beachfront of Barcelona.

Full Health Coverage Insurance

Great opportunities are waiting for BTS graduates

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THE DIGITAL
FUTURE

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BTS | **Barcelona** Technology School

UNIVERSITAT DE BARCELONA

BARCELONA

Barcelona Technology School

Information and admissions
info@barcelonatechnologyschool.com
(+34) 93 304 17 21

Location
Barcelona. Almogàvers 119
Barcelona's Technological
district (22@)