



PROFILE

I am a technology enthusiast with over 15 years of experience, currently focused on the field of data science and machine learning. My career path includes contributions to data manipulation and treatment, underpinned by a strong foundation in applied mathematics and engineering.

My passion for technology is matched by my experience in research and practical application in various industries, including a notable tenure in the financial services sector as a Research Analyst.

CONTACT

PHONE NUMBER:
+33 6 50 90 01 49

LINKEDIN:
www.linkedin.com/in/educep

EMAIL:
eduardo@cepeda.fr

ACTIVITIES AND INTERESTS

New Technologies
AI
Cloud
Financial Markets

EDUARDO CEPEDA, Ph.D.

KEY SKILLS

- Data Science
 - Machine Learning, Data analysis and visualisation, Python
- Data Engineer, ML Ops
 - AWS, Google Cloud, Relational Databases, SQL, ETL Pipelines
- Project Management
 - Planning, Organisation, Communication, Resources Management
- Finance
 - Stock and Bond Product and Markets, Portfolio Management, Strategy Development and Backtesting

EDUCATION

École Polytechnique

2003 to 2006
Engineer, X2003



Université Paris Cité (7)

2006 to 2007
Master of Sciences, Probabilities and Financial Modelling



Université Paris - Est

2009 to 2013
Ph. D., "Contribution to the probabilistic and numerical study of homogeneous coagulation - fragmentation equations."
My doctorate resulted in three publications in peer-reviewed scientific journals:



- I. [Stochastic coalescence multi-Fragmentation processes, 2015.](#)
- II. [Well-posedness for a coagulation multiple-fragmentation equation, 2014.](#)
- III. [Smoluchowski's equation: rate of convergence of the Marcus-Lushnikov process, 2011.](#)

CERTIFICATIONS



WORK EXPERIENCE

SENIOR DATA SCIENCE & TECHNICAL LEAD

Analitika SAS, Paris

2023–Present

As a consultant leading data science initiatives, I specialize in developing end-to-end solutions: data analytics, visualization, and ML with recent focus on NLP and generative AI applications.

Company Website: <https://www.analitika.fr>

Currently working as a consultant in Paris.

Key Projects & Achievements:

1. Developer Onboarding Assistant – Internal project

Description: Internal project to help onboard developers to new projects.

- Implemented a RAG system using FAISS vector database and LangChain to retrieve and process code
- Built document embedding pipeline to index technical documentation and codebase
- Created semantic search functionality to help developers find relevant code examples
- Developed an efficient retrieval system to accelerate developer onboarding process

2. Content Analytics Platform (Important European client)

- Collaborated with stakeholders to define KPIs and monitoring requirements
- Implemented semantic analysis pipeline using SQL and Python and video comparison to identify cross posting.
- Built automated ETL processes for multi-site content
- Created reporting tools for tracking content freshness and compliance
- Model deployment in VertexAI.

Technical Environment

Cloud Platforms: Google Cloud (Cloud Functions, Cloud SQL, Cloud Storage, Cloud Run, Pub/Sub)

Database: PostgreSQL

Programming languages: Python, SQL, JS

Technologies & Tools: Docker, GitHub Versioning, GitHub Actions, Generative AI

API: Meta, Tiktok, Snapchat, Youtube

3. Social Media Analytics System (French Media Company)

Description: Development of a tool to monitor the indexing of content on the various subsidiary sites of the client, allowing for verification of the compliance and freshness of published content. Use semantic matching techniques to compare crawled content after translation into a pivot language, such as English, with the reference library, allowing for the identification of specific matches or discrepancies (theme, content type, relevance, etc.).

- Led requirements gathering and solution design with client team
- Designed and implemented data ingestion pipelines
- Built ETL processes for multiple social media platforms
- Developed PostgreSQL database architecture for data storage

Technical Environment

Cloud Platforms: AWS

Database: PostgreSQL

Programming languages: Python, SQL

Technologies & Tools: Generative AI, Celery, Docker, GitHub Versioning, GitHub Actions

API: OpenAI, Anthropic, Bedrock

4. Enterprise Management Platform (Digital Marketing Company)

Description: Developed and implemented a platform for managing freelancers, including adding to the database, validating profiles, and managing and validating their content.

- Led team of 4 developers in full-stack platform development
- Designed data models and workflows for profile validation
- Implemented automated content management systems
- Built interactive dashboards for operational monitoring
- Created automated reporting tools for stakeholder update

Technical Environment

Cloud Platforms: AWS (Elastic Beanstalk, RDS, ECR, ECS, S3, Route53, SQS)

Database: PostgreSQL

Programming languages: Python, SQL, HTML, CSS, JS

Technologies & Tools: Docker, Django, Tailwind, Celery, Selenium, GitHub Versioning, GitHub Actions

DATA SCIENTIST

FemtoDx SAS, Paris

2021–2023

Founded in 2014, FemtoDx is a company specialized in the development of devices and software dedicated to improving the diagnosis of recurrent diseases such as heart failure. With the establishment of a subsidiary in Paris, the company focused on developing a software for calculating the mortality risk of patients with heart failure.

Company Website: <https://femtodx.com/>

Contribution

As a Data Scientist at FemtoDx, I played a key role in building and optimizing the data pipeline.

Responsibilities

- Medical Data Extraction: I was involved in extracting complex medical data from the MIMIC III database, ensuring the integrity and accuracy of the extracted data.
- Database Management: I contributed to organizing and storing medical data, ensuring their accessibility and security.
- Data Processing for Machine Learning: I prepared and processed data for injection into our machine learning model, ensuring their relevance and quality for accurate analysis.
- Development of Interface Tool: I provided technical support in developing an interface tool for communication with doctors.

Results

The goal of my role at FemtoDx was to contribute to the construction of a new diagnostic tool to improve the management of patients with heart failure. To this end, I designed and implemented the necessary infrastructure and code for ingesting, processing, and databasing medical information. I also played an active role in training and implementing the machine learning model, involving myself up to the stage of visualizing the results in a clinical context.

Technical Environment

Python, PostgreSQL, AWS: Lambda Function, API Gateway, ECR, RDS

VICEPRESIDENT - QUANTITATIVE ANALYST

TOBAM, Paris

2017–2021

At Tobam, a portfolio management company with \$10 billion under management in 2018, my mission as a quantitative analyst involved applying a unique investment strategy based on optimizing diversification. This strategy is defined by an internationally patented mathematical formula, guiding investment decisions and risk management.

Company Website: <https://www.tobam.fr>

Contribution

In collaborating with the Bond Portfolio Management Team: I provided technical and analytical support. My contribution focused on improving and extending the bond investment strategy through technical studies and historical performance tests. I addressed specific issues in the bond market, including correlation calculation and asset liquidity.

Responsibilities

- Expansion of Investment Universes for Bond Portfolios: I worked on enlarging bond portfolios to include High Yield (HY) and Investment Grade (IG) bonds in the United States portfolios.
- Implementation of Two Global Indices: I implemented two global indices for HY and IG markets, allowing for better diversification and more effective risk management.
- Development of an Index Tracker: I contributed to the creation of a tracker to closely monitor the performance of these indices.
- Bond Liquidity Prediction Model: I participated in developing a bond liquidity prediction model using advanced machine learning techniques.

Results

- Geographic Expansion of Investment Universes: The investment strategies diversified beyond the United States to include bonds issued in major economies such as the United States, Canada, Europe (including the United Kingdom), Australia, and Japan. This expansion applied to both HY and IG portfolios.
- Implementation of Strategies on HY and IG Indices: The strategy was successfully implemented on HY and IG market indices, offering better exposure and risk management.
- Creation of an ETF for the HY Index: I participated in creating an exchange-traded fund (ETF) for the HY index, considering liquidity aspects.
- Liquidity Study and Modelling: I conducted an in-depth liquidity study and developed a first prediction model using XGBoost, thus adding significant value to portfolio management.

Technical Environment

Python, VBA, Excel

Bloomberg, Thomson Reuters, Moody's,

QUANTITATIVE ANALYST

Kepler Cheuvreux, Paris

2013–2017

At Kepler Cheuvreux, a brokerage firm, I was part of the quantitative research team. Our team's primary responsibility was analyzing transactions and conducting studies on market microstructure.

Company Website: <https://www.keplercheuvreux.com/>

Contribution

In addition to providing in-depth financial analyses, I worked closely with other departments, focusing on screening risk premiums in the equity market.

Key Responsibilities and Achievements

- Developed and implemented an innovative stock valuation model designed to infer risk premiums.
- Designed a risk premium screening system for clients, updated weekly.
- Developed and implemented an investment strategy focused on exploiting deviations from implied risk premiums.
- Conducted a detailed statistical study of financial analyst recommendations, developing a predictive model for future recommendations, which helped anticipate market trends and formulate more informed investment strategies.
- Collaborated on data processing reconstruction for microstructure research and statistical estimates for execution algorithms across over 20 global equity markets.

Technical Environment

Matlab, Excel, VBA

Bloomberg, FactSet

QUANTITATIVE TRADER

In Fine Consulting, Paris

2008–2009

In the Risk division of the company, a trading activity was developed to implement statistical arbitrage strategies.

Contribution

- Collaborated in implementing a correlation-based arbitrage strategy on European markets.
- Responsible for designing and implementing arbitrage strategies using correlation analysis techniques to identify and exploit arbitrage opportunities in European markets.

Achievements

Successfully launched a primary seed arbitrage strategy. The portfolio I helped develop was subsequently offered to the company's clients.

Technical Environment

Matlab, Python

FactSet, Bloomberg, Thomson Reuters

Excel, VBA

QUANTITATIVE ANALYST

Natixis Investment Bank, Paris

2007–2008

In the structured credit products team, I focused on pricing Credit Default Swaps (CDS) and synthetic Collateralized Debt Obligations (CDOs).

Contribution

Simplified and communicated advanced copula models for credit derivative pricing.

Implemented a new pricing model using jump stochastic processes to represent correlations in CDS portfolios.

Responsibilities

Developed a stochastic model for pricing exotic credit derivatives.

Results

- Successfully communicated and simplified research on jump stochastic models applied in credit derivative pricing.
- Integrated the developed pricing model into the bank's computer system, enhancing pricing processes and decision-making for structured credit products.

Technical Environment

Matlab, C++, Excel, VBA

CERTIFICATIONS

GOOGLE PROFESSIONAL MACHINE LEARNING ENGINEER



March 2024

Description: A Professional Machine Learning Engineer builds, evaluates, productionizes, and optimizes ML models by using Google Cloud technologies and knowledge of proven models and techniques. The ML Engineer handles large, complex datasets and creates repeatable, reusable code.

The ML Engineer considers responsible AI and fairness throughout the ML model development process and collaborates closely with other job roles to ensure long-term success of ML-based applications.

The ML Engineer has strong programming skills and experience with data platforms and distributed data processing tools. The ML Engineer is proficient in the areas of model architecture, data and ML pipeline creation, and metrics interpretation.

The ML Engineer is familiar with foundational concepts of MLOps, application development, infrastructure management, data engineering, and data governance. The ML Engineer makes ML accessible and enables teams across the organization. By training, retraining, deploying, scheduling, monitoring, and improving models, the ML Engineer designs and creates scalable, performant solutions.

Link to Credential: <https://google.accreditable.com/a3e3a541-8ba4-4b54-9e62-972bb8f15751>

GOOGLE PROFESSIONAL CLOUD ARCHITECT



February 2024

Description: A Certified Professional Cloud Architect enables organizations to leverage Google Cloud technologies. Through an understanding of cloud architecture and Google technology, this individual can design, develop, and manage robust, secure, scalable, highly available, and dynamic solutions to drive business objectives.

A Certified Professional Cloud Architect has demonstrated in our assessment their ability to:

- Design and plan a cloud solution architecture
- Manage and provision the cloud solution infrastructure
- Design for security and compliance
- Analyse and optimize technical and business processes
- Manage implementations of cloud architecture
- Ensure solution and operations reliability

Link to Credential: <https://google.accreditable.com/3465b797-45cd-4846-86dd-75559da68172>

GOOGLE ASSOCIATE CLOUD ENGINEER



February 2024

Description: An Associate Cloud Engineer deploys applications, monitors operations, and manages enterprise solutions. This individual can use Google Cloud Console and the command-line interface to perform common platform-based tasks to maintain one or more deployed solutions that leverage Google-managed or self-managed services on Google Cloud.

Link to Credential: <https://google.accreditable.com/da2fdee1-9dfb-49af-ad5e-7b89e5a06918>

AWS CLOUD PRACTITIONER



January 2024

Description: This certification demonstrates a fundamental understanding of IT services and their usage in AWS Cloud. It validates proficiency in cloud concepts and a basic knowledge of AWS. Holders of this badge can identify essential AWS services necessary for setting up AWS-focused projects.

Link to Credential: <https://www.credly.com/badges/30d9b3c1-46a2-4c39-9653-674b368fec47>

GOOGLE DIGITAL LEADER



December 2023

Description: A Cloud Digital Leader can articulate the capabilities of Google Cloud's primary products and services and how they benefit organizations. The CDL can also describe common business use cases and how cloud solutions support a business.

Link to Credential: <https://www.credential.net/8f98d2d2-8c08-41fb-973f-a0689b3623f1>

CFA LEVEL I



December 2019

Description: An internationally recognized post-graduate certification in investment and finance. It covers a wide range of topics such as investment analysis, statistics, economics, and portfolio management. Provides in-depth expertise in corporate finance, financial analysis, and alternative investments. Develops advanced analytical skills, including security and derivative analysis.

Link to Badge: <http://basno.com/sjurkjinp>

CERTIFICATION BY THE AUTORITE DES MARCHES FINANCIERS



January 2015

Description: This certification is essential for investment service providers, including portfolio management companies and financial investment advisors. It verifies that individuals performing certain functions have a core set of skills and knowledge necessary for their roles, as determined by European and national standards, in the interest of clients.

LANGUES



French: Fluent



Spanish: Fluent



English: Fluent