

# FRANCO SCHIAVONE

Industrial Engineer (MEng. equivalent) ◊ Argentinian - Italian

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## EXPERIENCE

### Lumber — AI Engineer *Palo Alto, CA, United States*

Mar 2025 – Present

- Architected hybrid OCR/LLM pipeline for paper timesheet digitization: standardized form design; robust preprocessing (skew correction, contour detection, image enhancements); template-based homography alignment via SIFT with ArUco markers fallback; targeted cropping and multimodal LLM-driven field extraction with schema validation. Dockerized FastAPI backend with data registration into MongoDB and S3, structured logging, OpenTelemetry instrumentation with AWS X-Ray tracing.
- Document Intelligence Pipeline - Production extraction system for legal documents: multi-modal PDF ingestion, adaptive token-aware batching, typed Pydantic schemas, and self-correcting postprocessing loop with source hierarchy enforcement and cross-table validation; Textract OCR fallback for low-quality scans; LLM-as-a-Judge regression testing.
- Built extraction and compliance validation system for multi-state payroll reports; configurable rule engine handles jurisdiction-specific logic with audit trails for flagged discrepancies.
- Developed internal documentation assistant using RAG architecture: chunking strategies tuned for technical content, vector retrieval with reranking, and context-aware prompt construction for grounded responses with citation tracking.
- Developed multi-tenant facial verification service: pluggable recognition backends (AWS Rekognition, DeepFace models, Qdrant vector search); company-scoped face collections with upsert semantics; configurable similarity thresholds; FastAPI with async S3 integration.

### QuarkAI — Software Engineer - Data, Machine Learning *Santa Clara, CA, United States*

Apr 2023 - Mar 2025

- Contributed to Quark.ai's flagship RAG-based SaaS application QuarkGPT for customer support, focusing on shortlisting, system optimization, and designing prompt strategies. Led production releases to Fortune 500 companies.
- Developed support tickets summarization and tagging, generating synthetic representations and categories for customers' data using LLMs like OpenAI's GPT and Anthropic. Designed the prompt strategy.
- Developed a "proactive" AI agent that autonomously monitors support tickets, using LLMs such as Claude and GPT and information retrieval tools to assess when to take action, like notifying teams or issuing alerts.
- Researched and implemented accuracy enhancements in vector-based semantic search by leveraging LLMs to extract metadata alongside embeddings. Co-authored paper submitted to NAACL 2025 Industry Track.
- Designed and trained computer vision models in Pytorch and Tensorflow to recognize documents' layouts. Optimized with ONNX.
- Implemented expert knowledge capture from chat logs, involving threads identification, question-answer extraction.
- Orchestrated data ingestion pipelines (connectors, ingestion, indexing) for multiple customers using Apache Airflow, AWS Services (S3 for data storage, SQS for queuing tasks, Cloudwatch for logging) and Apache Solr.
- Designed and developed data ingestion engines for PDF and XLSX files that transformed complex hierarchical data into a sequence of semantically segmented entries.
- Implemented a web crawler in JAVA featuring a novel fetcher strategy that smartly combines web drivers and HTTP requests.
- Designed and implemented incremental ingestion systems to periodically update models by monitoring clients' API endpoints.

### Radium Rocket — Data & Backend Engineer *Argentina*

February 2020 - January 2023

- Web apps development and maintenance for U.S. startups and enterprises through outsourcers.
- Engineered ETL pipelines with Apache Airflow, AWS Lambda, AWS S3, AWS EC2, Google Compute Engine (GCE), Python (Pandas, Numpy).
- Implemented crawlers, scrapers, and other automations using Selenium, Scrapy-Splash.
- Python backend: Flask, Gunicorn, Nginx, combined with PostgreSQL, MongoDB, and Solr.

### Ventilemos — Co-Founder - Product Director - [ventilemos.com.ar](http://ventilemos.com.ar) *Argentina*

Feb 2021 - Mar 2023

- Trusted by more than +25 Multinational Companies, +10 Research Institutes and Universities, and +15 Government Institutions.
- Led a cross-functional team of +10 people (engineers, designers, and marketers) to two successful product launches: portable and IoT CO2 monitors to measure indoor air quality in the context of the COVID-19 pandemic. Shipped MVP in 30 days, first full-featured product in 90 days.
- Designed and implemented an IoT centralized system (using MQTT and MERN stack for the platform) for ESP32 processor.

### Techint Group - Ternium — Sr Data Analyst *Argentina*

Jun 2019 - Jan 2020

- Leader of contractor management. Training and support for managers and peers in Argentina, Brazil, Mexico, Colombia, Guatemala, USA.
- Optimization of labor productivity. Reporting, Microsoft Power BI dashboards. IT projects coordination.
- Benchmarking between production units, plants, processes, lines, and other companies to optimize industrial processes efficiency.
- Standardization and definition of procedural processes of the area: objectives, scope, inputs and outputs. Definition and monitoring of KPIs.

### Techint Group - Ternium — Data Analyst *Argentina*

May 2015 - May 2019

- Implemented a SQL database for 20,000 contractors across 400 companies, managed the annual economic budget of the labor force.
- Led a cross-functional team in preparing and presenting monthly reports to executives.
- Developed automation systems for personnel management, resulting in a reduction of 20% in manual effort and increased accuracy.

### TAUMET S.A. — Procurement Manager - Quality Manager *Argentina*

Jan 2015 - Apr 2015

### Plegados Franger - Metallurgical SME — Production & Product Design Manager *Argentina*

Jan 2009 - Mar 2014

## PROJECTS

- Video-to-PPT:** Developed an app to generate PowerPoint presentations from videos that outputted editable .ppt presentations using Tesseract.
- Covidargentina.com.ar:** Designed and developed an interactive data visualization dashboard to track the COVID-19 pandemic (+1000 users monthly), collaborating with global & local research institutions: New England Complex Systems Institute, MIT, Harvard, Brandeis, CONICET. Implemented a daily automated pipeline to ensure consistently updated data from multiple sources, with district granularity level coverage.

## SKILLS

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<b>Programming Languages</b>	Python, C/C++, JavaScript, Java.
<b>Web Stack &amp; Databases</b>	React, Redux, Typescript, NodeJS, Express, Flask, Gunicorn, Nginx, SQL, MongoDB, Solr.
<b>Data Analysis &amp; Visualization</b>	Pandas, Numpy, SciPy, R, Power BI, Matplotlib, Seaborn, Shiny.
<b>Deep Learning</b>	CUDA, Pytorch, FastAI Library, Keras, TensorFlow, Scikit-learn.
<b>NLP &amp; Computer Vision</b>	Stanford spacy, LLaMa, GPT, Langchain, Llama Index, Tesseract, OpenCV.
<b>DevOps &amp; ETL</b>	Bash, GIT, Docker, Apache Airflow, GCP (GCE), AWS (EC2, Lambda, S3, SQS, Cloudwatch).

## EDUCATION AND COURSEWORK

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**Universidad Nacional de Rosario** - MSc in Industrial Engineering equivalent (5 years program + thesis) 2019

**University of Cambridge** - First Certificate in English (FCE) 2009

## INVOLVEMENT

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**EndCoronavirus.org — Latin American Representative**

*May 2020 - May 2023*

- Appointed as Latin American representative data scientist by EndCoronavirus (international volunteer coalition based in the NECSI).