

**Jonathan Sansó** - Ssr. Full-Stack Developer (React / Next.js / NestJS) | AI Engineering (Applied NLP, OCR & Speech-to-Text) | Python Data Pipelines (Pandas) | AWS (EC2, RDS, S3, CloudFront) | Terraform (IaC) | Higher Degree in Programming

**Frontend:** React, Next.js, TypeScript, Tailwind, Bootstrap - **Backend:** NestJS (Node.js), FastAPI - **AI / Data Processing:** Pandas (ETL), OCR (Tesseract), Speech-to-Text (Whisper), NLP pipelines - **Databases:** MySQL, PostgreSQL, MongoDB (Prisma ORM), Supabase - **DevOps & Cloud:** AWS (EC2, RDS, S3, CloudFront, IAM, VPC, Security Groups), Terraform (IaC), Docker, NGINX, Linux (Debian/Ubuntu, self-managed), Vercel - **Tooling:** Git, GitHub

Buenos Aires, Argentina - Remote - Tel.: +5491169123268 - E-mail: [jonasans2@live.com.ar](mailto:jonasans2@live.com.ar) - English: B2 - Links: <https://portfolio-sanso-jonathan.netlify.app> - <https://github.com/jonathansansok> - <https://linkedin.com/in/jonathan-sanso-fullstack>

## Professional Experience

### 1. Argentine Federal Penitentiary Service (Jan 2024 - Present) [Private repositories available upon request.]

#### a) Institutional Platform for Complex Events - Frontend & Backend + AI Engineering

- **Lead developer** of a **national-scale** internal platform across multiple penitentiary units.
- **Designed and implemented** an **AI microservice** (Python + FastAPI) for **OCR and NLP**, enabling **automatic text extraction from images, scanned PDFs and audio files (speech-to-text)**, with **smart field auto-completion inside** institutional forms.
- Built **OCR pipelines** using **Tesseract** with **custom preprocessing, language models, noise reduction and text reconstruction (de-hyphenation, whitespace normalization)**.
- **Developed OCR pipelines** in **Python (FastAPI + Tesseract)** to **extract full text from institutional documents**, and built an **NLP summarization module** that **produces humanized, condensed summaries** with **configurable length**. Added **security classification (LOW/MID/HIGH)** and **basic inconsistency detection**.
- **Integrated frontend AI actions** in **Next.js**: “**Analyze with AI**”, **auto-populated fields**, and **human-review workflows**.
- **Replaced manual Excel workflows** by building **Python (Pandas) ETL pipelines** to **standardize large institutional datasets: header normalization, facility code mapping, ISO-8601 date conversion, document type/ID parsing, and export of clean files ready for automated MySQL imports via NestJS/Prisma**.
- **Dynamic forms** with **complex validations, modals, file uploads, and image croppers**.
- **Interactive maps (Leaflet/Google Maps)** for **events and geospatial zones**.
- **Automated PDF/Excel/Word reports** with **statistical charts and temporal-spatial filters**.
- **WhatsApp integration** for **alerts and coordination**.
- **Secure architecture:** **Next.js, Tailwind, NestJS, Prisma, MySQL, Docker, NGINX on Debian; Auth0 2FA, CSRF, sanitization, rate limiting**.
- **Fully dockerized** with **automated backups** on a **self-managed Linux environment**.

#### b) Public Web Verification Portal - Frontend & Backend

- **Public extension** of the **Institutional Platform for Complex Events**, providing **secure document verification** for **national and international organizations**.
- Verifies reports via **CV + CRC validation (HMAC-SHA256)** and issues **10-minute JWT view grants (HS256)** with **server-controlled, time-limited access**.
- **Anti-exfiltration controls:** **disables copy/paste, print, and captures; adds recipient watermark overlay**.
- Renders **TipTap JSON → HTML** with **justified text** and institutional formatting.
- Signed push **API** with **HMAC, idempotency keys, clock-skew validation, and SHA-256 file integrity checks**.
- Stack: **React (Vite), TypeScript, Tailwind, NestJS, Prisma, MariaDB, Docker/Compose, NGINX, Helmet/CORS**.

#### c) Ticketing System - Frontend & Backend

- Internal **IT ticketing** platform in **PHP + MySQL** with **Google SSO**.
- Incident intake, assignment, status tracking, and audit trail.
- Streamlined maintenance **workflows** with **reliable, searchable history**.

### 2. VirtuaState - Frontend (May 2022 - Jul 2022)

- Built a responsive portfolio site for a **VR/AR studio (HTML5/CSS/JS, mobile-first)**, implementing **SEO and performance optimizations** to improve **visibility and load speed**. Live: [www.virtuastate.net](http://www.virtuastate.net)

## Education:

### 1. Higher Degree in Programming - Teclab (Aug 2022 - Aug 2024)

**Subjects:** **Programming Logic, SQL Databases, Web Development (JavaScript, PHP), UX, AWS Practitioner, Project Management, Mobile Development (Java), Configuration Management, Web Integrations, Information Systems Design, Interface Development, Time & Work Organization, People Management, and Decision-Making & Problem Solving.**

### 2. Frontend - Backend - CoderHouse (Jan 2022 - Mar 2023)

Delivered all projects on time using **HTML5, EJS, CSS, SASS, React, Node.js, MongoDB, Express, and GraphQL**, as seen at <https://react-e-commerce-j-sanso.vercel.app>