Leo Senai

Civic-minded technologist. Recent MSCS graduate (Dec 2024)

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EXPERIENCE

International Research & Exchanges Board (IREX) — Washington, DC
Senior Digital Advisor — January 2025 - Present (Furloughed due to Executive Orders)

- Advised IREX leadership on scaling its digital project portfolio by developing growth strategies and leveraging its partnership with Development Gateway, an IREX venture specializing in government digital transformation and digital public infrastructure (DPI).

Independent Consultant; Client: Exchange.Design/USAID — Washington, DC
Data Quality and Management Consultant — Jul - Aug 2024

- Automated data consolidation and migration for a $200M USAID project, cleaning data from 120 Excel sources and integrating it into Airtable.
- Designed a fuzzy-matching Python script to deduplicate 60,000 records into 10,000 unique entries.
- Researched and drafted a data reporting automation plan using the Airtable API, incorporating data quality tests, automated cleaning, and a user-friendly UI for client teams.

Creative Associates International — Washington, DC
Civic Technology Lead — 2019 – 2022

- Served as the organizational subject matter expert on utilizing technology to support civil society for a mid-size USAID/global development contractor with a portfolio of over 20 projects.
- Advised on selection of technology solutions for civic participation, open governance, digital transformation, and data-driven decision-making, aligning technical strategies with programmatic goals.
- Managed needs assessments, selection, piloting, and integration of digital tools, including government technology platforms, data analytics, cybersecurity, remote sensing, and machine learning applications.
- Developed data-driven insights to enhance program effectiveness, conducting national digital landscape assessments and leveraging analytics for decision-making.
- Established partnerships with Microsoft's Defending Democracy Program, Orange Telecom, and local tech firms to expand technological capabilities.
- Provided technical leadership on proposals, supporting up to 8 teams monthly in technology strategy, partnerships, and research.
- Facilitated training for civil society actors, journalists, and election officials on cybersecurity, data protection, and digital advocacy tools.

Souktel Digital Solutions — Washington, DC
Business Development Manager; Project Manager (Dual Role) — 2018 – 2019

- Managed development and delivery of two USAID-funded software solutions: a farmer training platform (Rwanda, CNFA) and post-conflict data management software (Philippines, Plan International).
- Managed the full BD cycle for a humanitarian tech firm, securing contracts ranging from $150K – $1M.
- Conducted competitive analyses, developed win themes, and wrote technical approaches for proposals..

- Negotiated partnerships, identified clients' technical/software specification needs, and contributed technical inputs, capability statements, and cost proposals.
- Oversaw Agile SDLC, remotely attending daily stand-ups to ensure timely product development.

Chemonics International   Washington, DC
Senior Associate, Project Management and Regional Operations (Dual Role)   2017 – 2018

- Provided operational, financial, and contractual support for two $20M+ USAID agriculture projects in Ukraine and Tajikistan.
- Supported the SVP in all operational aspects of managing 30+ staff of the Eurasia Division.
- Co-founded Chemonics' D&I Council, drafted its charter, led communications, and facilitated hiring of the first D&I Director for a 5,000+ employee organization.

Chemonics International   Washington, DC
Senior Associate, Recruitment   2015 – 2017

- Provide management and administrative support to home office, project and proposal recruits.
- Traveled to Ethiopia and Tanzania to recruit and onboard staff during project start-up.

EDUCATION

Northeastern University   Boston, MA
MS, Computer Science. GPA: 3.97   2022 – 2024

- MLK Jr. Graduate Fellow at the John D. O'Bryant African American Institute. Full tuition awarded for demonstrated commitment to public service.
- GEM Board Fellow, National GEM Consortium. National scholarship for minorities in STEM.

George Washington University   Washington, DC
BA, International Affairs

SKILLS

</> Python · PyTorch · TensorFlow · C · Java · BASH · Git · SQL · MongoDB · HTML/CSS · JavaScript (+ Node, React, Redux) · AWS Architecture

👥 Project and Product management · Software development· Building partnerships · Business development · Multidisciplinary collaboration · Technical writing · Technical needs documentation

🔤 English: fluent· Russian: advanced · Spanish: intermediate · Arabic: intermediate

OTHER TECHNICAL PROJECTS

Project web-scraping, classification and summarization utilizing LLM   January 2025
NLP/LLM Pyton Script   Personal project for IREX

- Scraped IREX's website to gather information on over 90 projects utilizing Beautiful Soup Python Library.
- Utilized an instruction-tuned LLM (Mixtral-8x7B-Instruct-v0.1) with function calling to determine if each project had a significant digital component, and if so, summarize it into a spreadsheet format.

PDF Question-Answer Chatbot utilizing RAG   October 2024 – December 2024
NLP/LLM Application (Group Project)   Course: Natural Language Processing

- Developed a chatbot that enables users to ask questions about the contents of PDF documents.
- Performed an ablation study to compare the performance of three instruction-tuned LLMs (Microsoft Phi-3.5, Qwen2.5 72B, Mistral 7B), three embedding models (all-MiniLM-L6-v2, all-mpnet-base-v2, multi-qa-mpnet-base-cos-v1), and prompt engineering methods.
- Deployed a lightweight web UI to demo the system (Link).

Data mining and predictive modeling on human trafficking dataset October 2024 – December 2024
Python; Data Analaysis   Course: Data Mining

- Conducted data mining and predictive modeling on the CTDC Victim-Perpetrator Synthetic Dataset to analyze patterns in human trafficking, focusing on forced labor and sexual exploitation.
- Developed and evaluated machine learning models (Logistic Regression, Random Forest, XGBoost) for binary classification of exploitation types and multi-class classification of regions of exploitation and victim origins, achieving 80% accuracy in predicting victims' region of origin.

Kanbas Learning Management System   January 2024 – April 2024
Full Stack Web Application   Course: Web Development

- Developed a fully functional web application modeled after a popular LMS utilizing MongoDB, Express, React, Node (MERN) stack (TypeScript).

Bookworm Book Review Website   April 2024
Full Stack Web Application   Course: Web Development

- Built a social media book-review website using the MongoDB, Express, React, Node (MERN) stack (TypeScript).
- Developed complete server-side architecture using Node/Express and led front-end development of user profile page and related features: follow/unfollow, conditional rendering, display followers/following.

Investigating the Performance of RNNs in Stock Market Analysis   April 2024
Research Project   Course: Foundations of AI

- Utilized TensorFlow to train a Recurrent Neural Network (RNN) to predict the price of a set of stocks.

Bookstore Inventory Management System Back-End   December 2023
Back-End Development   Course: Database Management Systems

- Built back-end of an inventory management system for bookstore employees using MySQL and Python.
- Implemented over 40 stored procedures for sales analytics and customer management functions.

Basic 'Paint' Application in Java, Swing UI   May 2023
Software Development   Course: Objected Oriented Programming

- Built a Java-based 'paint' app using Model-View-Controller design to draw shapes via text commands.
- Conducted thorough unit testing using Junit4.

Stakeholder Network Analysis (SNA) of Governance Ecosystem   December 2021 - June 2022
Network Analysis   Client: USAID

- Led technical implementation of SNA for two USAID-funded programs in West Africa.
- Utilized networking mapping and analysis technology to assess levels and quality of collaboration among hundreds of stakeholders working on social cohesion, community resilience, early warning, and

countering violent extremism (CVE).

- Provided technical contributions to a final report and presentation of findings to USAID and other stakeholders. Link to demo/illustrative presentation here: Click here
- Findings helped inform post-coup strategic programming in response to the 2022 coup in Burkina Faso.