

# Bibas Kandel

github.com/Kandel-Bibas | linkedin.com/in/kandel-bibas | contact@bibas.dev | bibas.dev

## Education

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### The University of Southern Mississippi

Bachelor of Science in Computer Science

May 2027 (expected)

Hattiesburg, MS

**Minors:** Mathematics, Information Technology, and Economic Data Analysis

**Relevant Coursework:** Data Structures and Algorithms, Operating Systems, Discrete Math, Linear Algebra, Probability and Statistics

## Experience

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### Software Developer

Institute for Advanced Analytics and Security, USM (**AQUAVIEW**)

May 2025 – Present

Hattiesburg, MS

- Reduced dataset retrieval on AQUAVIEW from custom scripting to a single plain-English question, by building a natural-language search agent that compiles the question into a database query, confirms the plan with the researcher, and returns results as CSV or Parquet with a ready-to-run notebook.
- Made decades of NOAA ocean data fast to query by building the backing pipeline in Dagster, which converts NOAA files to Parquet and indexes them so the agent scans only the files it needs.
- Kept AQUAVIEW reliable for daily research use by building its health-check monitoring, with Grafana dashboards and alerts across services.

### Software Development Associate

ArroyoDev (**Illumibot**)

Oct 2025 – May 2026

Remote / Hattiesburg, MS

- Took Illumibot’s storefront from prototype to a live store by building its marketplace, cart, and buyer-to-seller messaging in React and Supabase.
- Enabled the store to accept real payments by replacing the legacy Square checkout with Stripe end to end, covering payments, webhooks, orders, and product-catalog sync.
- Automated multi-zone shipping quotes by building a rate calculator for delivery zones, box sizes, and per-item rules, with an admin dashboard to manage it.
- Enabled real-time audience interaction on live streams by building projection-reactions, which renders AI-generated images from viewers’ YouTube-chat messages onto the stream overlay.

## Projects

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**Reglex** | AWS Bedrock, Lambda, OpenSearch, DynamoDB, React

Team Lead

- Delivered a production search tool that lets Mississippi Secretary of State staff look up statutes and regulations and get answers with citations, by leading a 6-person team.
- Turned messy regulation PDFs into searchable data by building the ingestion pipeline (PDF parsing, OCR, and LLM field extraction on AWS Bedrock) and a search that combines keyword and semantic matching.
- Kept long-running queries reliable by designing an async job system on AWS Lambda and DynamoDB.

**Brainstorm Boost** | Tauri, Next.js, FastAPI, whisper.cpp, Ollama, ChromaDB

Team Lead

- Delivered an on-device meeting assistant for the U.S. Navy’s NIWC Pacific, through USM’s Design Solutions for Defense (DS4D) program, that turns recordings into ranked topics, decisions, action items, and speaker-attributed insights, by leading a 4-person team.
- Kept sensitive meeting audio on the user’s machine by building the app to run fully on-device (Tauri desktop), with local speech-to-text (whisper.cpp) and local LLMs (Ollama) plus an optional cloud model for deeper analysis.
- Cut facilitator cleanup by adding speaker diarization and a searchable ChromaDB knowledge base, so output is attributable and reusable across sessions.

## Technical Skills

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**Languages:** Python, TypeScript, JavaScript, SQL, Dart, C++

**AI & ML:** RAG, LangGraph, FastMCP, ChromaDB, Ollama, Whisper, Claude Code, Codex

**Backend & Data:** FastAPI, REST APIs, Dagster, Polars, Parquet, PostgreSQL, DynamoDB, OpenSearch

**Frontend & Apps:** React, Next.js, Tailwind, Flutter (mobile), Tauri (desktop)

**Cloud & DevOps:** AWS, GCP, Supabase, Docker, Terraform, CI/CD, Grafana