Jiawen Sun

Full-Stack Developer

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SUMMARY

Full-stack developer and Computing Science honors student with experience building React, Next.js, Node.js, Express, FastAPI, and PostgreSQL applications. Built REST APIs, cookie-session authentication, cloud deployments on AWS EC2/RDS, and ASR post-training workflows.

TECHNICAL SKILLS

Languages: C, C++, Python, TypeScript, JavaScript, Bash, SQL

Web / Backend: React, Next.js, Express, Node.js, FastAPI, REST API design, HTML/CSS

Data / Cloud / DevOps: MongoDB, PostgreSQL, Redis, Vercel KV, AWS, Amazon RDS, Docker, Vercel, Hugging Face, Git, CI/CD, Linux

Auth / ML / Systems: HTTP-only cookie sessions, JWT, session management, PyTorch, ASR, CTC training, audio preprocessing, model deployment, CMake, GDB, data structures

EDUCATION

University of Alberta **Expected Jun. 2028**

B.Sc. Honors, Computing Science

GPA: 3.5/4.0

Coursework: Algorithms, Machine Learning, Data Structures, Practical Programming Methodology, Computer Organization/Architecture, Formal Systems and Logic, Ethics in Data Science & AI, Linear Algebra, Applied Statistics.

Awards: International Admission Scholarship; Gold Standard Scholarship.

EXPERIENCE

AISpeech **Jun. 2026 – Aug. 2026**

AI Intern

- Evaluated internal speech-recognition models after ASR post-training, comparing LoRA and fine-tuning runs against recognition accuracy changes.
- Built backend features for an internal model application and used GitHub workflows to manage experiment code, tests, debugging notes, and application updates.

PROJECTS

Ultimate Job Tracker github.com/SturkaCircutz/ultimate-job-tracker

TypeScript, React, FastAPI, PostgreSQL, Redis, Docker, AWS EC2/RDS, Google OAuth/Gmail API, CI/CD

Full-stack cloud application

- Built and deployed a Gmail-powered job tracker that helps users track applications and generate research notes on companies and roles.
- Containerized the app with Docker Compose and deployed it on AWS EC2 with RDS PostgreSQL, Caddy proxy, CI/CD, backend tests, migration checks, and frontend tests.
- Implemented Google OAuth with cookie sessions, Redis session state, Gmail API access-token refresh, and per-user authorization.
- Designed PostgreSQL/SQLAlchemy models and Alembic migrations for users, companies, applications, research reports, and Gmail sync memory to prevent deleted or unrelated emails from being re-imported.

See My Voice github.com/SturkaCircutz/see-my-voice

TypeScript, Next.js, React, Express, MongoDB, JWT, Python, ASR

- Built a Mandarin pronunciation practice app with a Next.js/React frontend, Express/MongoDB backend, and pronunciation analysis using a fine-tuned model published on Hugging Face.
- Implemented login/register flows, microphone recording practice, progress/detail screens, API calls, and analysis/TTS endpoints.
- Added verification across the stack with TypeScript typecheck/build scripts, Python unittest coverage, and Node web state/integration tests.

SPPIG Programmatic Policy Reproduction github.com/SturkaCircutz/SPPIG

Python, NumPy, PyTorch, Reinforcement Learning, Control Simulation, Test Tooling, Essay DOI

- Engineered a reinforcement learning research framework with deterministic task generation, automated train/test splits, and CLI runners that produce JSON metrics and trajectory logs.
- Implemented unit tests and verification checks for generated artifacts to support reliability in a collaborative research setting.
- Authored the SPPIG essay covering framework implementation, experimental methodology, and results (DOI).