

Knight Foundation School of Computing and Information Sciences

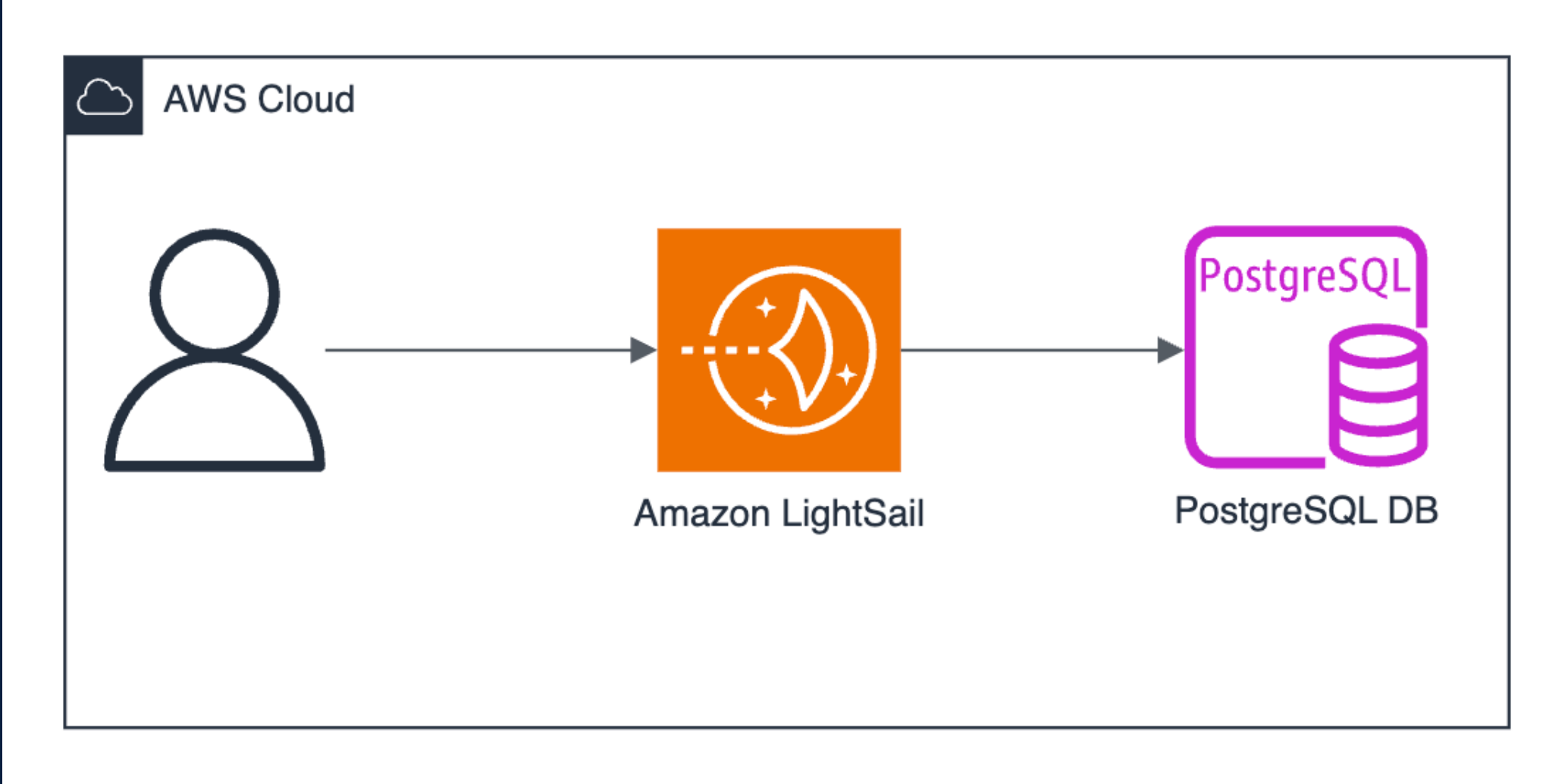
Fall 2025 Senior Design Project

Cloud-Based Resume Builder

Students: Esteban Oliva, Christopher Petit, Ambar Pineda, Cesar Jimenez
Instructor: Masoud Sadjadi

Problem	CURRENT SYSTEM	REQUIREMENTS
• Job seekers burn time hand-formatting resumes; small layout tweaks break consistency across applications. • Traditional editors lack guided section ordering, live preview, and easy PDF export; teams also need reproducible infrastructure for a production-ready builder.	• Django 5.2 app with Tailwind-driven templates, live preview, ordered sections, and optional PDF export via WeasyPrint. • Default SQLite for dev; Postgres via DATABASE_URL in .env or AWS Secrets Manager. • Deploys to EC2 or ECS using CloudFormation (aws-infra/web-ec2.yaml) and GitHub Actions; Nginx proxies to Gunicorn.	• Python 3.11, Django stack from requirements.txt, Cairo/Pango/gdk-pixbuf/libffi for WeasyPrint. • Environment: DJANGO_SECRET_KEY, DATABASE_URL, DJANGO_ALLOWED_HOSTS, DJANGO_CSRF_TRUSTED_ORIGINS, PORT (plus optional storage/auth vars). • Responsive UI served from Django templates; optional PDF export enabled when OS libs are present.
SYSTEM DESIGN	OBJECT DESIGN	IMPLEMENTATION
• Django views for editor, preview, and PDF export; inline formsets manage multi-entry sections with ordering. • Shared base/preview/PDF templates ensure browser and print layouts stay aligned. • Infrastructure as code for VPC, EC2, RDS; bootstrap script renders .env, runs migrations, collects static files, and starts Gunicorn behind Nginx.	• Models: Profile (core record) plus Education, Experience, Project, Skill with order fields. • Forms: ProfileForm + inline formsets for child tables; validation and ordering handled server-side. • Services: WeasyPrint PDF renderer, media/static handling, Gunicorn WSGI endpoint.	• Local: python manage.py migrate && python manage.py runserver with .env from .env.example; live edit at /profile/<pk>/edit/, preview and PDF download when WeasyPrint is installed. • Cloud: EC2 bootstrap installs Python/Cairo stack, pulls secrets, writes .env, runs systemd-managed Gunicorn; ECS option uses ALB + awslogs.

Architecture Diagram



SUMMARY

Cloud-Based Resume Builder delivers a guided resume editor with live preview and PDF export, packaged with reproducible AWS deployment paths (EC2) and secrets-driven configuration for production use.