

# Jacob Luttrull

Software Engineer

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## Professional Summary

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Entry-level Software Engineer with a B.S. in Computer Science and demonstrated experience in Python, Django, and SQL. Designed and delivered a full-stack sports analytics dashboard integrating a third-party REST API, engineered a custom static site generator in Python without external libraries, and developed a predictive machine learning model achieving approximately 80% accuracy. Currently progressing through Boot.dev's Back-end Developer Path (11 of 23 courses completed), building depth in data structures, algorithms, functional programming, and systems-level memory management. Seeking an entry-level software engineering role (remote or local) to contribute technical skills and continue professional development.

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## Skills

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**Languages:** Python · C · C++ · HTML · CSS · Java · SQL

**Frameworks & Libraries:** FastAPI · Django · SQLAlchemy · Spring Boot · Angular · Scikit-Learn · Pandas · NumPy · XGBoost · Streamlit · Matplotlib · Bootstrap

**Tools & Platforms:** Git · GitHub · Docker · Linux CLI · PyCharm · DataGrip · Railway · Alembic

**Concepts:** Data Structures & Algorithms · OOP · REST APIs · Functional Programming · Memory Management · Performance Optimization · Agile/Scrum

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## Projects

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**Personal Portfolio Website** · Python, FastAPI, PostgreSQL, SQLAlchemy, Railway

- Built and deployed a full-stack portfolio site using FastAPI and PostgreSQL on Railway, with Alembic-managed migrations, a JWT-protected admin panel, and database-driven project management.
- Implemented a secure contact form featuring XSS sanitization, CSRF protection, Cloudflare Turnstile CAPTCHA, rate limiting, and Gmail email notifications.
- Enforced production-grade security with CSP, HSTS, and X-Frame-Options middleware, rotating file logging, and a pytest test suite covering all public routes and validators.

**Oklahoma Sooners Dashboard** · Python, Django, Bootstrap, REST API

- Built a full-stack Django web app integrating the CollegeFootballData (CFBD) API to surface season records, rankings context, player leaders, a ranked schedule, and live game box scores.
- Designed a normalized relational schema (Teams, Games) with home/away FKs and idempotent schedule sync keyed by CFBD game ID using freshness-based caching.
- Implemented Bootstrap templates and a custom management command to refresh all team and schedule data on demand.

**Diabetic Prediction Website** · Python, scikit-learn, XGBoost, Streamlit

- Built an ML model with ~80% accuracy to predict Type 2 diabetes risk using XGBoost and scikit-learn.
- Developed an interactive Streamlit web app with SHAP visualizations for explainable, interpretable predictions.

**Static Site Generator** · Python, HTML, CSS, GitHub Pages

- Built a Markdown-to-HTML static site generator from scratch in Python with no external parsing libraries, processing raw Markdown files and images into a fully deployable website.
- Implemented recursive directory traversal, template-based HTML generation, configurable base paths for deployment, and automatic static asset copying.
- Deployed live to GitHub Pages with unit tests and a production build script; completed as a guided project through Boot.dev.

**Package Routing Optimizer** · Python, Data Structures & Algorithms

- Built a custom chaining hash table with O(1) lookups and optimized delivery routes for 40 packages in ~100 minutes.
  - Applied a greedy nearest-neighbor algorithm to meet real-world delivery deadlines under time and distance constraints.
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## Education

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**Western Governors University** | Bachelor of Science

Grad August 2025

Computer Science

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## Certifications

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**ITIL Foundation Certification**

PeopleCert · Expires: May 2028

**Linux Essentials**

Linux Professional Institute