Self-Taught SWE Roadmap (2025-11-24 to 2026-08-15)

This roadmap is the high-level plan for your self-taught SWE track. It is organized into 4 phases, each with weekly focus areas, practice, and project milestones. Use this as a reference only; detailed weekly plans live in your Claude artifact and VS Code notes.

Phase 1: Foundations (Weeks 1–11, Nov 24 → Feb 15)

• Goals: Python fundamentals, Git/GitHub workflow, 40–50 LeetCode mediums, Project 1 backend (FastAPI + PostgreSQL) scaffolded.

• Week 1: Python basics + environment setup – install Python 3.11+, VS Code, Git; variables, data types, control flow; functions, modules, imports; write 5 small scripts; push to GitHub.

• Week 2: Collections + file I/O – lists, tuples, dicts, sets; list comprehensions; file reading/writing; 3 easy LeetCode; CSV parser script.

• Week 3: OOP basics – classes/objects, methods, __init__, inheritance; small class hierarchy; 2 LeetCode using classes.

• Week 4: Error handling + testing – try/except, custom exceptions, pytest basics; write tests for earlier scripts; 3 LeetCode mediums.

• Week 5: Intro DSA (arrays & strings) – two pointers, sliding window, hash maps; 5 LeetCode mediums, document patterns.

• Week 6: FastAPI setup – install FastAPI/uvicorn; basic GET/POST; Pydantic models; simple API; init Project 1 backend repo.

• Week 7: PostgreSQL basics – install Postgres; SQL CRUD; connect FastAPI via SQLAlchemy; users table + CRUD in API.

• Week 8: Docker basics – Dockerfile for FastAPI; Docker Compose for app+DB; containerize Project 1.

• Week 9: More LC (hash maps, two pointers) – 6 mediums.

• Week 10: Testing FastAPI – endpoint tests, mocking DB, error handling; add coverage to Project 1; 3 LeetCode mediums.

• Week 11: Review + wrap – review Python, FastAPI, Postgres, LC patterns; refactor and document Project 1. Target: 40–50 LeetCode mediums total.

Phase 2: Intermediate SWE (Weeks 12–21, Feb 15 → Apr 30)

• Goals: Intermediate DSA, total 80–100 LeetCode mediums, deploy Project 1 (AWS/GCP), start Project 2 (ML or distributed system).

• Weeks 12–15: Stacks/queues, binary search, linked lists, trees (DFS/BFS); roughly 20 LeetCode mediums across these topics.

• Week 16: Deploy Project 1 to AWS EC2.

• Week 17: AWS RDS Postgres + env vars; connect FastAPI.

• Week 18: CI/CD with GitHub Actions – run tests on push, auto-deploy.

• Week 19: Project 2 architecture + repo setup.

• Week 20: Backtracking patterns; 5 LeetCode mediums.

• Week 21: Phase review, polish Project 1, documentation. Target: 80–100 LC mediums.

Phase 3: Portfolio Completion (Weeks 22–30, May 1 → July 1)

• Goals: Finish and deploy Project 2, harden both projects, intro system design, reach 120–140 LeetCode mediums.

• Weeks 22–23: Project 2 core implementation + integration tests.

• Weeks 24–25: Graphs (BFS/DFS, Dijkstra, topo sort, union-find); ~10 LC mediums.

• Week 26: Deploy Project 2.

• Weeks 27–28: System design basics – scalability, load balancing, caching, SQL vs NoSQL, replication, sharding, CAP.

• Week 29: 1D dynamic programming; 5 LC mediums.

• Week 30: Final polish + READMEs for both projects; mixed LC mediums to consolidate.

Phase 4: Interview Prep (Weeks 31–37, July 1 → Aug 15)

• Goals: Resume and GitHub polish, mock interviews, behavioral prep, system design practice, applications ready; 150–160 LeetCode mediums total.

• Week 31: Resume and GitHub cleanup; pin best projects.

• Week 32: Coding mocks + timed LeetCode.

• Week 33: Behavioral prep (STAR stories, common questions).

• Week 34: System design mocks (URL shortener, Twitter feed, etc.).

• Week 35: Final LeetCode push (10 mediums).

• Weeks 36–37: Finalize materials and submit applications; maintain 3–5 mediums/week.