# Software Engineering Roadmap

## Programming Fundamentals

- Python (syntax, data structures, OOP)
- Libraries (pandas, numpy, matplotlib)

## Version Control

- Git (commits, branches, merging)
- Collaboration (GitHub, GitLab)

## Project Structure & Organization

- Modular code (functions, classes, packages)
- Documentation (README, docstrings)

## Testing

- Unit Testing (pytest, unittest)
- Integration Testing
- Test Coverage

## Software Design

- Design Patterns (MVC, Singleton, etc.)
- Best Practices (DRY, SOLID)

## Web Development

- Backend (Flask, Django)
- Frontend (HTML, CSS, JS basics)
- APIs (REST, GraphQL)

## Data Engineering

- Databases (SQL, NoSQL)
- ETL Pipelines
- Data Visualization

### Deployment

- Packaging (pip, setup.py, requirements.txt)
- Containerization (Docker)
- Cloud Basics (AWS, Azure, GCP)
- CI/CD (Continuous Integration/Deployment)

### Maintenance & Monitoring

- Logging
- Error Tracking
- Performance Monitoring

### Collaboration & Soft Skills

- Code Reviews
- Agile/Scrum
- Communication