

Full Stack AI Engineer Bootcamp

Advance AI Capability and Ecosystem in Western Australia

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UWA NLP-TLP Group

The University of Western Australia

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Why we do this?

■ Industry-Education Gap

- Significant disconnect between academic curricula
- and real-world industry requirements

■ Industry Expectations

- Focus on practical implementation
- Get the job **Done**

Our Goal

*Bridge this gap by building your capability
to deliver production-ready AI solutions*

The Team

Support by



NLP-TLP GROUP

Core Team



Jichunyang Li¹



Haolin Wu



Pascal Sun

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Meet Our Instructors



Haolin Wu

Software Engineer
Telstra Digital

www.haolin.dev

- Lead the development of several modules within Telstra Website
- Full Stack Development
- Cloud Engineer



Pascal Sun

Full Stack Developer
UWA PhD candidate

pascalsun.github.io

- Delivered several successful commercial products
- Lead AI product development
- Research area is AI

Why Trust Our Training?



PersonalBusinessEnterprise

Telstra PlusSign In

MobilesInternetEntertainmentAccessoriesBlack Friday SaleSupport

Telstra personal /

Telstra outages

Find information on network outages, estimated fix times and other ways to stay connected when your Telstra services are offline.

Showing outages at ALBANY, WA 6330

Address

Suburb

Only mobile outages will be shown in results. For nbn co ltd outages, search by address instead.

Enter your suburb, town or postcode

Search



No mobile network outages found

There are no known outages at
ALBANY, WA 6330

For nbn co ltd outages, search by address instead.

Figure: Telstra outage website

Why Trust Our Training?

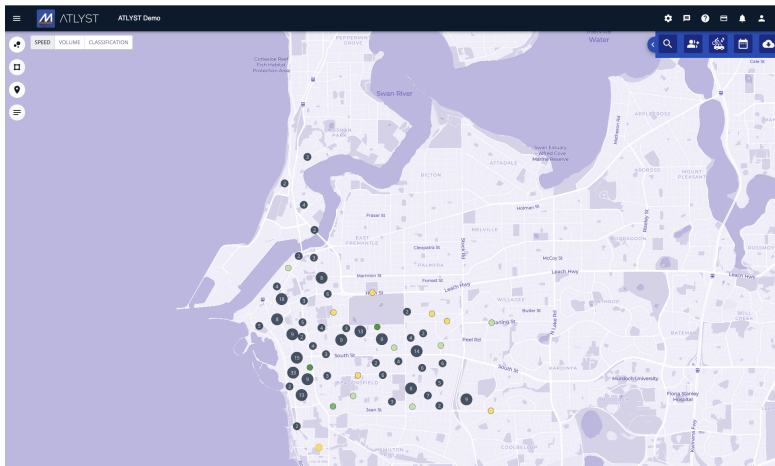


Figure: ATLYST: Revolutionary Traffic Data Management Platform

Why Trust Our Training?



Figure: Roadpod VM: Hardware Device



Figure: Roadpod VM: Deploy on the road

Why Trust Our Training?

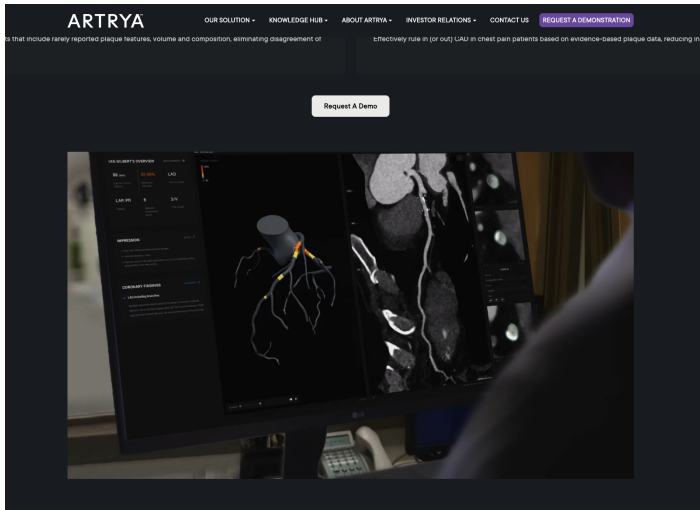


Figure: Salix: AI based coronary artery disease diagnosis

What we can expect from this?

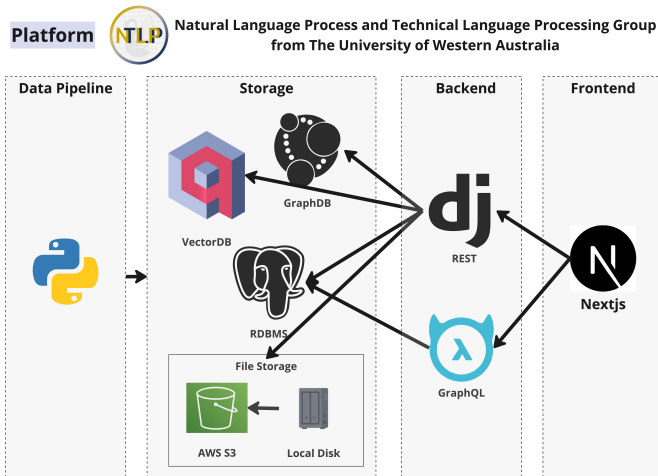


Figure: The Full Stack architecture you will build in the end



Course Schedule - Part 1

Module	Key Components ²	Time
Dev Environ- ment Setup	IDE & Tools Configuration, Terminal & Shell, Code Formatting, Development Workflows	11.25 2pm-4pm
Docker	Container Basics, Docker Commands, Dockerfile, Docker Compose	11.26 2pm-4pm
Agile & Git	Branch Management, Pull Requests, Code Review, Collaboration	11.27 2pm-4pm
FullStack Intro	Frontend-Backend Architecture, APIs, Databases, Deployment	11.28 2pm-4pm

²It will be delivered as lectures and demos

Course Schedule - Part 2



Module	Key Components	Time
Python Package Development	Package Structure, Dependencies, Virtual Environments, ML Package Development	12.2 2pm-4pm
Databases	SQL Fundamentals, Graph DB, Vector DB, Query Optimization	12.3 2pm-4pm
React	Components, State Management, Hooks, Performance	12.4 2pm-4pm
Django	MTV Architecture, URL Routing, ORM, RESTful Endpoints	12.5 2pm-4pm

Course Schedule - Part 3



Module	Key Components	Time
GraphQL	Concepts, Setup, Compare with Restful, Performance	12.9 2pm-4pm
Authentication	JWT Implementation, Security Best Practices	12.10 2pm-4pm
DevOps	CI/CD Pipelines, Infrastructure as Code, Deployment and Monitoring	12.11 2pm-4pm
Projects	Discussions, stretchable time	<i>12.12 2pm-4pm</i>

Course Structure Summary

Three + One Weeks BootCamp

Core Tutorial Period

- **Duration:** Nov 25 - Dec 13
- **Schedule:** Mon-Thu, 2-4pm
- **Daily Q&A:** 4-5pm
- **Friday:** Optional discussion
- **Mode:** *RBST: [G16] Robert Street LT* in UWA or Online

Project & Follow-up

- **Project Week:** Dec 16-20
- Full mentorship support
- Build your own solutions
- Apply learned concepts
- *Then change the world!*

Total Coverage:

24 Hours Tutorial ■ 12 Modules ■ Hands-on Projects ■ Flexible Support

Communication Channel

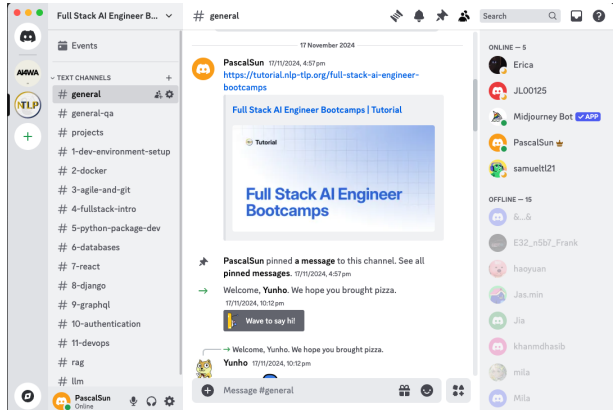
Discord Community



Course Materials



Our Discord Server



Requirements

What You Need

Essential Requirements

- Your own laptop with admin privileges
- Basic computer operation knowledge

Technical Prerequisites

- Basic programming concepts:
 - Bash/Terminal operations
 - Python fundamentals
 - JavaScript/HTML basics

If you do not know these, fill the gap by yourself.

Most Important: Self-driven and motivated learning attitude

- We guide your problem-solving process
- You take ownership of your learning journey



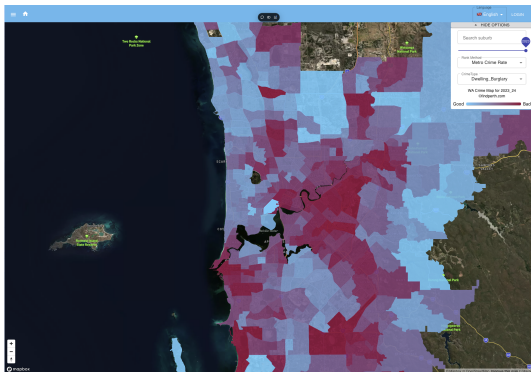
What Can You Build?

Project Outcome

Deliverable:

- Implement the Full Stack Solution Architecture
- Interactive web interface
- Deployed and accessible via a link
- Production-ready

Example Project



What you can build within four-week time frame

Project Ideas

Build Something Meaningful

Your Own Vision

- If you already have an idea you're passionate about
- We'll help you architect and implement it



Suggested Directions

1 Public Information Chatbot

- RAG-based AI assistant
- Access WA government documents, policies, laws, fisheries rules, etc
- Make public information more accessible
- Bridge the gap between official documents and general public

2 Community Data Platform

- Visualize government public data in WA
- Generate community insights
- Help public understand their neighborhood



Q&A

Questions?

Feel free to ask anything