Dharun Somalingam

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CAREER OBJECTIVE

As a Data Science and Computer Science student, I aim to apply my skills in programming, statistical and computational modelling, software development, and machine learning to develop intelligent, automated, and data-driven systems. I am passionate about Software development, automation, and AI integration to improve system efficiency and decision-making. I value opportunities that encourage creativity, collaboration, and professional growth in a technology-driven environment.

EXPERIENCE

WEB DEVELOPMENT AND AI INTERN   November 2025 – Present
IGNITION STUDIOS

- Designed and implemented an automation system to sync Obsidian notes with Notion, integrating QuickAdd workflows, markdown parsing, and Notion API operations for seamless two-way content management.
- Rebuilt AI-driven blog generation pipelines, improving article quality and automated publishing to Ghost CMS.
- Enhanced website responsiveness and UI consistency across devices, fixing alignment and layout issues.
- Developed modular Node.js scripts with secure API integrations (Google OAuth, Ghost Admin API, Gemini).
- Collaborated with developers to improve deployment workflows on Render, conducted device/browser testing, and documented system architecture for future interns and engineers

DATA PROCESSING & OCR DEVELOPER   June 2025 – Present
UNIVERSITY OF WESTERN AUSTRALIA | BUSINESS SCHOOL UWA (ECONOMICS)

- Developed and enhanced Python-based ETL pipelines for digitising census records, integrating AI-driven OCR (Mistral) and automated post-processing for structured datasets.
- Built self-healing pipeline components using error detection and retry mechanisms to maintain data continuity and Automated data ingestion and transformation from multiple sources using Pandas, SQLAlchemy, and Jupyter Note
- Supporting climate and migration research by transforming raw census data into machine-readable formats for large-scale statistical modelling and IPCC-aligned climate mobility analyses.
- Contributing to the 2030 Agenda for Sustainable Development, enabling policymakers to design better migration policies that prioritise vulnerable communities and promote poverty reduction, resilience, and sustainability.

RESEARCH ANALYST   July 2024 – December 2024
UNIVERSITY OF WESTERN AUSTRALIA | SCHOOL OF AGRICULTURE AND ENVIRONMENT

- Developed Python-based workflows to authenticate, extract, and process climate data from Netatmo and DPIRD APIs, including temperature, humidity, pressure, and wind observations.
- Implemented scalable data pipelines with bounding box geospatial queries to retrieve weather station data across Perth, Sydney, Melbourne, Brisbane, and Adelaide.
- Implemented ETL/ELT processes for geospatial data across Australian cities, integrating PostgreSQL and Python automation for reproducibility. Contributed to climate resilience research by enabling fine-grained analysis of urban heat linked to residential development, informing policy for sustainable planning

IT AND DATABASE ASSISTANT   April 2024 – July 2024
CITIZENS ADVISE BUREAU OF WA (CAB NON-PROFIT ORGANISATION)

- Provided IT and database support to improve efficiency of CAB's legal information services, ensuring reliable access for staff, volunteers, and community members.
- Assisted in planning, execution, and evaluation of IT processes, including database management and support
- Collaborated with cross-functional teams and volunteers, enhancing communication and Team collaboration.
- Contributed to CAB's mission of delivering free, impartial legal advice to vulnerable individuals, aligning IT solutions with social impact goals

EDUCATION

BACHELOR OF SCIENCE MAJOR IN DATA SCIENCE AND COMPUTER SCIENCE.   February 2023 – December 2025
The University of Western Australia

TECHNICAL SKILLS AND KNOWLEDGE

- **Programming Languages:** Python (Advanced), R, Java, SQL, C , DAX, Data Warehousing and Computational Modelling
- **Web & Application Development:** Flask, FastAPI, RESTful APIs, HTML, CSS, JavaScript, Bootstrap, jQuery, Flask-SocketIO

- **Data & Analytics:** Data Analysis, Geospatial Analysis, Pandas, NumPy, Matplotlib, Seaborn, Statistical Modelling, Predictive Analytics, Tableau, Power BI
- **Data Engineering:** ETL/ELT Pipelines, PostgreSQL, MySQL, SQLite, SQLAlchemy ORM
- **Systems & Architecture:** Relational Databases, Database Design, Socket Programming, Multi-threading
- **Tools & Frameworks:** Git, Jupyter Notebooks, Unit Testing, Debugging Tools, Docker, Version Control
- **Specialised / Research Skills:** AI & LLM Integration, Machine Learning, OCR Pipelines, Technical Documentation, Research Methodology
- **Other Skills:** UX Design (Figma – Basics), Data Visualisation, Dashboard Design, Cloud / Deployment Awareness

PROJECTS

AUSTRALIAN ROAD CRASH ANALYSIS
DATA WAREHOUSING AND MINING TECHNIQUES

- Extracted and transformed multi-source road crash data from ARDD and built ETL pipelines using Python (Pandas, NumPy) and SQL to extract and transform large-scale crash datasets for analytical modelling.
- Built a star and snowflakes schema data warehouse with fact and dimension tables to enable efficient querying and reporting.
- Conducted exploratory data analysis and visualisations with Python (Matplotlib, Seaborn) and R to uncover patterns
- Applied association rule mining and statistical analysis to identify high-risk scenarios and key contributing factors to road fatalities.
- Delivered actionable insights to stakeholders to inform road safety policies, including safety and speed regulations.

CHRONIC CARE FULL STACK WEB PROJECT AGILE
BASED DATA ANALYTICS APPLICATION

- Developed a web application to help individuals with chronic pain manage medical appointments, documents and reminders securely and efficiently
- Designed and developed real-time features with Flask-Socket IO, enabling live notifications and user session tracking, and Created interactive dashboards and visualisations to track appointment trends, practitioner usage, and document statistics
- Built an user friendly and responsive frontend using HTML, CSS, Bootstrap, JavaScript, and jQuery, incorporating form handling via Flask-WTF and asynchronous updates with AJAX**.**
- Ensured privacy, accessibility, and user-friendly document management, including upload, categorisation, and secure sharing of medical records.

CLIMATE-MIGRATION CENSUS DATA EXTRACTION
DATA DIGITALISATION & DATA PIPELINE DEVELOPMENT

- Developed a robust pipeline to extract structured tables from historical and scanned census PDFs using Mistral OCR and LLMs.
- Split complex pages into chunks and cropped regions dynamically to improve OCR accuracy and handle tables with varied formatting.
- Applied AI-based post-processing to clean, standardise, and enrich raw OCR output, correcting headers, labels, and table structures.
- Validated datasets against predefined schemas to ensure consistency, metadata accuracy, and machine-readability.
- Produced high-quality datasets to facilitate climate-migration analyses, enabling research into human mobility patterns in response to environmental changes.

ADDITIONAL EMPLOYMENT AND EXPERIENCE

EZY MATH TUTORING COMPANY TUTOR
- Mentored students to build confidence, improve study habits, and reduce fear of failure in mathematics.
- Planned and delivered structured lessons tailored to students' individual needs and learning pace.
- Provided exam strategies and targeted practice to strengthen understanding of challenging topics.
- Encouraged motivation and engagement through personalised guidance and ongoing feedback.

SBS CONVEYOR SERVICES BELT
SPLICER CASUAL
- Performed conveyor belt splicing, repairs, and routine maintenance to ensure smooth and reliable operation.
- Operated specialised tools and followed strict safety protocols in industrial environments.
- Collaborated with team members to efficiently install, service, and troubleshoot conveyor systems.

NANDOS RESTAURANT TEAM MEMBER
- Handled front-line customer interactions, ensuring prompt service and high satisfaction.
- Collaborated with team members to maintain efficient workflow during busy periods.
- Effectively multitasked between order processing and food preparation to meet service standards.

VOLUNTARY AND COMMUNITY WORK

UNI-MENTOR
UNIVERSITY OF WESTERN AUSTRALIA
- Supported academic programs and special events, assisting students with university-related queries.
- Communicated effectively with students and staff to ensure smooth event execution.
- Provided guidance and support on academic and campus-related issues.
- Contributed to creating engaging, well-organised, and inclusive events.

PERTH VOLUNTEER,
SWAN ESTUARY RESERVES ACTION GROUP
- Collaborated with colleagues, parents, and community members to support environmental initiatives and group activities.
- Engaged with various environmental projects, gaining hands-on experience in sustainability and community.
- Developed strong teamwork, time management, and organisational skills while coordinating group events.

REFERENCE

Name: Dr Christopher Parsons   **Organisation:** UNIVERSITY OF WESTERN AUSTRALIA

Role : Academic Supervisor / Project Mentor   **Email :** christopher.parsons@uwa.edu.au

Phone : +61 8 6488 5639

Name: Basavaraj Hiremath   **Organisation:** WA Health Alliance

Role : Technical scrum master   **Email :** raj.hiremath@wapha.org.au

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