

RITHIHA RUDHRAKUMAR

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SKILLS

Languages: Python, Java, C

Libraries and Tools: pandas, scikit-learn, NumPy, Git

Core Areas:

Machine Learning

Artificial Intelligence

Software Engineering

PROFILE

Bachelor of Science student majoring in computing and Software Systems at the University of Melbourne, seeking AI/ML engineering internships.

EDUCATION

University of Melbourne

Expected DEC 2027

BSc Computing and Software Systems major

PROJECTS

Cascade Game AI Agent – University Coursework project

2026

- Designed and implemented a two-player Cascade game agent using iterative deepening negamax search with alpha-beta pruning
- Developed move ordering strategies (static action prioritization and killer-move heuristic) reducing average node evaluations per turn
- Implemented Zobrist hashing with a transposition table and applied null-move pruning, reducing nodes per turn further.
- Engineered a custom evaluation function combining six-weighted positional and material features to assess non-terminal game states

EXPERIENCE

Marketing Officer – Google Developers Group on Campus (University of Melbourne)

2026 – Present

- Collaborate with a student committee to organize and promote events, meetups, workshops
- Create and manage social media content to increase engagement and participation in student tech initiatives

Travel Mode Prediction (Supervised Machine Learning)

2025

- built an end-to-end supervised machine learning pipeline in Python to predict household travel mode choice using a Melbourne transport survey dataset
- Performed data cleaning, missing value imputation, feature engineering and outlier removal across multiple linked datasets
- Conducted exploratory data analysis using statistical visualizations (histograms, boxplots, correlation heatmaps) to guide feature selection
- Trained and compared k-nearest neighbours and decision tree classifiers, tuning hyperparameters and evaluating performance using accuracy and F1 score

Shadow Dungeon (Java Game Development)

2025

- Developed a multi-room dungeon crawler game in Java using the Bagel framework with structured state-based room transitions
- Implemented core gameplay systems including player movement, combat flow, shop mechanics, win/loss conditions and reset functionality
- Applied object-oriented design principles including encapsulation and inheritance to structure game entities and logic
- Used configuration driven design by loading room layouts and entity positions from external properties files