Team Inventory

Creating a Reinforcement Machine Learning Agent
to Solve a Video Game

9/2/2024

Mentor:
Parteek Kumar

Team Members:
Duncan Hintz, Cole Clark, Luke Flock

The purpose of this paper is to introduce our team members, including our skills, education, experience, interests, and any other information that they felt was worth noting.

Duncan Hintz

Computer Science Major

Hometown: Renton, WA

Education

August 2021 - May 2025

Washington State University - *Bachelor of Science Computer Science*

Relevant courses:

> CPTS 321 Object Oriented Software Principles
> CPTS 422 Software Engineering Principles II
> CPTS 437 Intro to Machine Learning

Experience

Fall 2023-Present

AI Training

- Currently employed training AI models on programming languages for the purpose of solving errors
- Requires knowledge of how AI models work, knowledge of many programming languages

Fall 2023-Spring 2024

Game Development

- Created multiple small games, including: full VR platformers, a mobile "clicker" game, a painting application
- Skills included multi-platform development, game design

Fall 2021

Mobile Logic Calculator App

- Created a small scale Android application for the creation of truth tables in logic calculations
- Required UI/UX skills, logic processing, full app development

Skills

- *Languages:* Python, Java, C#, Javascript, HTML/CSS
- *Tools:* Unity, Unreal Engine, Git/GitHub, Microsoft Excel, NodeJS, React

Interests

- Video games, AI / Machine Learning, Volleyball, Music

Cole Clark

Computer Science and Accounting Major

Hometown: Kettle Falls, WA

Education

August 2019 - May 2025

Washington State University - *Bachelor of Science Computer Science*

Bachelor of Arts in Business Administration, Accounting

Relevant courses:

CPTS 440 Artificial Intelligence
CPTS 321 Object Oriented Software Principles
CPTS 437 Intro to Machine Learning

Experience

Spring 2024

Personality Type Predictor

- Applied machine learning tools in the Scikit-learn library to create a personality type predictor in Python
- Cleaned data that included twitter users Meyers-Briggs personality types and twitter use statistics

Spring 2024

Spreadsheet Application

- Used software development principles to create a spreadsheet application to calculate numbers, reference cells, undo or redo actions, and properly handle exceptions for invalid inputs
- Saved and loaded the state of a spreadsheet using XML file format
- Employed agile methodologies such as test driven development to maintain a working spreadsheet application with each added feature or bug fix

Summer 2022

Stock Price Predictor

- Used Random Forest and K nearest neighbor algorithms in Scikit-learn Python library to predict stock prices
- Used different data with machine learning algorithms to predict stock prices

Skills

- *Languages:* C, C++, C#, Python, Haskell
- *Tools:* Microsoft Excel, Google Workspace, Alpaca API, Scikit-learn, Neo4j

Interests

- Machine Learning, hiking, and camping

Luke Flock

Computer Science Major
Hometown: Washougal, WA

Education

August 2021 - May 2025
Washington State University - *Bachelor of Science Computer Science*

Relevant courses:
> CPTS 321 Object Oriented Software Principles
> CPTS 437 Intro to Machine Learning

Korea University – Study Abroad

Relevant courses:
> Artificial Intelligence
> Data Science

Experience

Summer 2024
Letterboxd TasteMeter Extension

- Built a chrome extension that generates a similarity score between you and another user based on shared movie ratings
- Integrated various web APIs to fetch and process user data and learned to work with RESTful services and JSON data
- Utilized data processing and analysis algorithms to calculate and compare user ratings to determine similarity

Spring 2024
League of Legends Game Classifier

- Assisted development of a predictive model using Python to classify outcomes of ranked League of Legends games
- Trained and implemented a Decision Tree classifier with sklearn on a preprocessed dataset
- Evaluated model performance against other classifiers, including kNN and pruned Decision Trees
- Achieved a 76% accuracy rate in predicting game outcomes after the first 15 minutes of gameplay

Skills

- *Languages:* Python, JavaScript, C++, HTML/CSS
- *Tools:* Adobe Premiere Pro, Photoshop, Microsoft Office, Nodejs, sklearn, ReactJS

Interests

- AI/ML, Software Development, Video Editing, Rock Climbing, Drawing, Gaming