Khanh Nguyen

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Education

Digipen Institute of Technology — Redmond, WA
Bachelor of Science in Computer Science in Machine Learning — *Aug. 2023 – Present*
- Honors and Awards: Merit Scholarship Recipient

Bellevue College — Bellevue, WA
Associate's in Science — *Dec. 2019 – June 2022*

Projects

Stock Prediction Model | *Python, Machine Learning, Streamlit* — Sep 2024 – Present
- Integrated `RandomizedSearchCV` for hyperparameter tuning, optimizing `Random Forest` performance.
- Implemented `TimeSeriesSplit` cross-validation to ensure robust model evaluation.
- Developed a Streamlit-based dashboard for interactive stock trend prediction and model training.
- Automated data retrieval with Yahoo Finance API, falling back to local storage for reliability.
- Engineered technical indicators like RSI, MACD, Bollinger Bands, and moving averages to enhance predictive accuracy.
- Designed a dynamic feature engineering pipeline to process historical stock data efficiently.
- Logged model performance metrics and saved the best-performing model for future predictions.
- Utilized `confusion matrices` and `classification reports` for model interpretability.
- Achieved an F1-score of 0.76 for price increases and a weighted average F1-score of 0.69.

Shifter | *C, C++* — Feb 2024 – Aug 2024
- Published on Steam, making it available to a global audience | Steam Page
- Game Development: Developed a 2D platformer game with a team of three where the player navigates through portals to solve puzzles.
- Designed and implemented core engine elements, including a sound system, settings menu, and progress-saving system.
- Create intuitive user interfaces for menus, allowing seamless navigation and interaction.
- Graphics Optimization: Implemented settings options allowing players to adjust graphic presets for optimal performance.
- Addressed bugs and provided solutions to optimize the gameplay experience, resolved team issues by facilitating communication and deescalation, ensuring project milestones were met.

Sky Slinger | *C, C++* — Aug 2023 – Jan 2024
- Developed a 2D platformer game with a team of five featuring a unique grappling mechanic for player traversal, leveraging game engine capabilities.
- Implemented player controls, level design, and animation systems to enhance gameplay dynamics and game mechanics
- User Interface Design: Designed intuitive user interfaces for menus, level selection, and in-game heads-up display (HUD), incorporating features to enhance player experience.
- Resolved issues within the application, addressing bugs and optimizing game mechanics for seamless gameplay.

Caro - Five in a Roll | *Python* — Aug 2023 – Present
- Developing a Tic-Tac-Toe inspired game using Q-Learning, providing an intelligent AI opponent for enhanced player engagement.
- Demonstrated proficiency in algorithm design, game development, and problem solving skills to create a challenging and competitive gaming environment.

Technical Skills

- **Programming Languages:** Java, Python, C/C++, SQL, HTML, CSS
- **Game Development:** Unity
- **Developer Tools:** Git, Visual Studio, VS Code, IntelliJ, Eclipse, JupyterLab
- **Libraries:** pandas, NumPy, Matplotlib, Seaborn, DGL, CProcessing, Scikit-Learn
- **Knowledge:** Object-Oriented Programming (OOP) principles, Data Structures and Algorithms, Web Development (HTML/CSS, JavaScript), Version Control Systems (Git), WSL, 3D Slicers