SEHADATULLAH ATAL

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Highly motivated and results-driven programmer. Adept at both solo and collaborative projects. Possessing strong technical skills in C#, C++,C, Python, JavaScript, Unity, and Unreal Engine, combined with hands-on experience in programming software and games. Known for excellent problem-solving abilities, and a commitment to continuous learning and professional growth

EDUCATION

University of California Santa Cruz, *BS in Computer Science: Game Design* | California, USA — June 2024

Courses: Artificial Intelligence | Data Structures and Algorithms | Advanced Programming | Game Production Studio | Comp Systems and C Programming | Programming Abstraction Python | Game Systems | Linear Algebra

EXPERIENCE

Research, *Research Assistant: Data Handler)* | UCSC, Santa Cruz, California, USA) — Jan 2023 - May 2023

- Tested GPU weak memory models and shared memory consistency behavior on NVIDIA GPUs.
- Spearheaded the data gathering, contextualizing, and visualization efforts within the research group.
- Developed and implemented scripts to automate the execution of various programs, streamlining processes.
- Developed scripts to effectively visualize and organize data, creating detailed three-dimensional graphs for comprehensive data analysis.
- The contextualization and visualization of data provided by these scripts helped identify inconsistencies, patterns, and bugs across multiple programs, ultimately **improving model performance** by **1.5x to 3x**.

SKILLS

Languages	C/C++ | C# | Python | Java | CMake | Bash | HTML | CSS
Game Systems and Design	Multiplayer | Procedural Animation | Procedural Generation | Finite State Machines | Path-Finding
Engines	Unity | Unreal
Software	Linux | VS | VS Code | Vim | Docker | Github | Blender | Photoshop | Substance Painter
Other	Git | Miro | Trello | 3D Math

PROJECTS

Published 3D Multiplayer Steam Game – *Steam | 3D | Unity | Multiplayer* — Jan 2024 - June 2024

- Solo Developer (Programming, Game Design, Audio Design, Model Design, etc).
- **Multiplayer** - Peer to Peer using Fishnet Networking Solution
- **Procedurally Generated Animations** - Inverse Kinematics
- **Physics** - simulations and controllers
- **Artificial Intelligence** - Finite State Machines
- **Procedural Generation** - A* Path Finding, 3D Dungeon Generator
- **370 Steam Wishlists**

Multi Threaded (24 CPU, 4 PC) Password Cracker – *C++ | Berkley Sockets| UDP* — Nov 2023 - Nov 2024

- Networked - Berkeley Sockets, UDP Protocol
- **Architecture** - Master-Slave Model, Multi-Threading,
- Task Management - Task Distribution, Progress Updates, Result Reporting
- **Data Structures and Synchronization** - Thread Pool, Work Queue, Synchronization Mechanisms
- Optimization - Thread Pooling, Work Queue Management

Pac-Man projects – *Various AI techniques to solve game-playing challenges within the classic Pacman game | Python| Optimization* — Jan 2023 - March 2023

- **Search Algorithms** - DFS, BFS, UCS, A*
- Adversarial Search - Minimax Algorithm, Alpha-Beta Pruning
- Probabilistic Inference - Bayesian Networks, Particle Filters
- **Reinforcement Learning** - Q-Learning, Approximate Q-Learning, Value Iteration
- Heuristics - Manhattan Distance, Admissible Heuristics
- Game-Specific Strategies - Evaluation Functions, Feature Extraction

Wordle Puzzle Solver – *C | Object Oriented* — March 2022 - March 2022

- Solves any WORDLE puzzles consistently and accurately.
- **Data Structures** - Hash Table Large Data Set
- Feedback Based Filtering - Pattern Matching by Guesses
- **Heuristics** - Frequency Analysis | Entropy Maximization