

MARK FRANCALANGIA

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EDUCATION

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| Bachelor of Computer Science (BS) , Southern New Hampshire University | October 2023 |
| Software Engineering and Web Development (AS) , New England Institute of Technology | September 2019 |
| Achievements: 4.0 GPA, Honor Roll (2022–2023) | |

TECHNICAL SKILLS

Languages: C++, C#, Java, Python, Verse

Game & Engine Development: Unreal Engine (C++/Blueprints), Unity3D, Multiplayer Systems, Network Replication

Backend & Architecture: REST APIs, MVC, Client-Server Systems, Distributed Systems, Scalable System Design

Databases: MySQL, PostgreSQL, Relational Schema Design

Infrastructure & Systems: vSphere, Network Troubleshooting, Hardware Integration, Vulnerability Management, System Deployment

Tools & Methods: Git, Docker, CI/CD, Agile/Scrum

Operating Systems: Linux, Windows

EXPERIENCE

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| IT Technician — <i>Systems Support, Hardware Integration, Networking, IT Support</i> | March 2025 - Present |
| Great Wolf Lodge | |

- Provide technical support and troubleshooting for resort-wide systems, including POS/PMS, attraction hardware, network infrastructure, and guest-facing systems.
- Deploy and configure IT and hardware systems; perform break/fix, hardware repair, and manage tickets.
- Administer vSphere environments, assist with on-site installations, and handle vulnerability management.
- Collaborate with operations and engineering teams to resolve system-level issues and improve infrastructure workflows.

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| Software Engineer (Volunteer) — <i>Distributed Systems, Python, MMO Architecture</i> | March 2018 - Present |
| Toons of the World Foundation — Toontown Rewritten | |

- Designed and implemented client-server gameplay systems for a large-scale MMO supporting thousands of concurrent players.
- Contributed to distributed backend architecture using Astron and Panda3D, focusing on scalability, state synchronization, and performance.
- Integrated persistent data systems and relational database structures for player progression and game state management.
- Maintained and refactored legacy systems while introducing architectural improvements for long-term scalability.
- Collaborated with cross-functional teams in iterative Agile workflows to deliver stable production releases.

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| Software Engineer Intern — <i>Unity3D, C#, MVC Architecture</i> | June 2023 - August 2023 |
| Indie.io | |

- Developed and maintained gameplay systems and UI components using Unity3D and C# following MVC architectural principles.
- Implemented scalable feature updates and optimized runtime performance for post-launch releases.

- Collaborated with engineers, designers, and QA in an Agile development environment to deliver stable builds.
- Contributed to debugging, refactoring, and architectural improvements within existing codebases.

PROJECTS

Disney's Toon Tag Attraction Recreation — *Unreal Engine, C++, Blueprints*

- Developed a networked multiplayer experience in Unreal Engine using C++ and Blueprints.
- Implemented replicated gameplay systems using Unreal's networking model, designing modular C++ components for scalability and maintainability.
- Integrated external 3D asset pipelines and optimized runtime performance.

Unannounced Fortnite UEFN Experience — *Unreal Editor for Fortnite, Verse*

- Designed and implemented custom gameplay mechanics using Verse scripting.
- Developed modular interactive systems tailored for multiplayer environments.