

MARK FRANCALANGIA

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SUMMARY

Full-stack Software Engineer and IT professional with experience in game platform development, system architecture, and hardware-integrated applications. Proficient in C++, C#, Java, and Python with hands-on experience integrating relational databases (MySQL, PostgreSQL) and building scalable systems. Background in Unity and Unreal Engine development with distributed client-server architecture experience. Experience supporting enterprise infrastructure, network systems, and attraction-based technologies in production environments. Strong collaborator experienced in Agile/Scrum environments, passionate about interactive attractions and gaming technologies.

EDUCATION

Bachelor of Computer Science (BS), Southern New Hampshire University

October 2023

Associate of Computer Science (AS), New England Institute of Technology

September 2019

Achievements: 4.0 GPA, Honor Roll (2022-2023)

EXPERIENCE

IT Technician — *Systems Support, Hardware Integration, Networking*
Great Wolf Lodge

- Provide technical support for resort-wide systems including attraction-related hardware, network infrastructure, and guest-facing interactive systems.
- Troubleshoot and maintain integrated hardware/software environments to ensure high availability and minimal downtime.
- Assist with deployment, configuration, and on-site installation of hardware devices and software systems.
- Collaborate cross-functionally with operations and engineering teams to diagnose and resolve system-level issues.
- Support documentation and continuous improvement of infrastructure reliability.

Software Engineer Intern — *Unity3D, C#, MVC Architecture*
Indie.io

- Developed and maintained gameplay systems and UI components using Unity3D and C# following MVC architectural principles.
- Implemented scalable feature updates and optimized 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 enhancement of existing codebases.

Volunteer Game Developer — *Distributed Systems, Python, MMO Architecture*
Toons of the World Foundation - Toontown Rewritten

March 2018 - Present

- Design and implemented client-server gameplay systems for a large-scale MMO supporting thousands of concurrent players.
- Contribute to distributed backend architecture using Astron and Panda3D, focusing on scalability and performance.
- Integrate persistent data systems and relational database structures for player progression and game state management.
- Maintain and enhance legacy systems while introducing architectural improvements.
- Collaborating closely with developers, designers, artists, and QA testers in iterative Agile workflows.

PROJECTS

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

- Developed a networked multiplayer experience in Unreal Engine using C++ and Blueprints.
- Implemented gameplay systems, replication logic, and modular architecture for 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.

TECHNICAL SKILLS

Programming Languages: C++, C#, Java, Python, Verilog

Full-Stack Development: REST APIs, MERN/MEAN Stack, MVC Architecture

Databases: MySQL, PostgreSQL, Relational Schema Design

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

Systems & Architecture: Client-Server Architecture, Distributed Systems, Hardware-Software Integration

Tools: Git, Docker, CI/CD

Cloud Services: AWS (Lambda, API Gateway, DynamoDB), GCP

Methodologies: Agile, Scrum

Operating Systems: Linux, Windows