

JAMES FOLK

Game Developer | Gameplay · Engine · Systems Programming | C++ · Lua
Mount Sinai, NY · (631) 327-0064 · jamesfolk1@gmail.com · linkedin.com/in/jamesfolk1 ·
jamesfolk.me/game-development · mobygames.com/person/389849

SUMMARY

Game developer shipping since 2006: gameplay on Halo Infinite at 343 Industries in C++ and Lua (credited under Software Engineering in the official credits), in-game features and systems on NBA 2K22 at Visual Concepts, and seven Nintendo DS, DSi, and Game Boy Advance titles at Powerhead Games, including Glow Artisan, winner of Best Mobile Game Design at the 2010 Independent Games Festival Mobile awards. Founder of NJLIGames Ltd, where a proprietary cross-platform C++ engine has powered 10+ original games and VR experiences and two original daily games are live on the web today. Comfortable from register-level handheld constraints to AAA codebases.

SHIPPED TITLES

- **Halo Infinite** (343 Industries / Xbox Game Studios, 2021, Xbox Series X|S and Windows). Gameplay programming, C++ and Lua; credited under Software Engineering.
- **NBA 2K22** (Visual Concepts / 2K, 2021, PlayStation 5). In-game features, mechanics, and systems in C++; credited as additional engineer.
- **Major League Baseball 2K10** (Powerhead Games for 2K Sports, 2010, Nintendo DS). Audio programming.
- **Did It Myself ABC123** (Powerhead Games, 2010, Nintendo DSiWare). Programming; the first DSiWare title rated EC by the ESRB.
- **Glow Artisan** (Powerhead Games, 2009, Nintendo DSiWare; 2010, Windows Phone 7). Programming; IGF Mobile 2010 Best Mobile Game Design winner, Nintendo Life 9/10.
- **Winx Club: Mission Enchantix** (Powerhead Games for Konami, 2008, Nintendo DS). Programming.
- **Petz: Catz 2** (Powerhead Games for Ubisoft, 2007, Nintendo DS). Additional programming.
- **Winx Club: Quest for the Codex** (Powerhead Games for Konami, 2006, Nintendo DS and Game Boy Advance). Programming.
- **Catz** (Powerhead Games for Ubisoft, 2006, Nintendo DS). Programming.
- **Musicianle** (NJLIGames, 2026, web). Original daily music guessing game; designed, built, and operated solo. Live at musicianle.com.
- **Proven Sudoku** (NJLIGames, 2026, web). Original daily sudoku with provable difficulty; designed, built, and operated solo. Live at provensudoku.com.

CORE SKILLS

Gameplay: C++ and Lua feature work inside AAA codebases; gameplay systems, mechanics, and polish under production deadlines

Engine & Graphics: Proprietary cross-platform C++ engine (Windows, Linux, macOS, iOS, Android): OpenGL ES rendering, shaders, 3D math, physics integration, memory management, multithreading, asset pipelines

Platforms: AAA console, Nintendo handhelds (GBA/DS/DSiWare), mobile, web; Unity with HoloLens 2 and Vuforia for AR

Languages: C/C++ (11 through 20), Lua (15+ years), Python, Swift, Dart, Java, BrightScript, SQL, JavaScript

Engineering Practice: CMake and Jenkins/GitHub Actions CI, unit and integration testing, code review, Git, profiling and optimization on constrained hardware

GAME DEVELOPMENT EXPERIENCE

Halo Gameplay Engineer | 343 Industries

February 2021 - June 2021 · California (remote)

- Contributed to Halo Infinite gameplay in C++ and Lua, adding and enhancing gameplay features and resolving gameplay issues for a polished player experience.
- Credited under Software Engineering in the game's official credits; Microsoft reported more than 20 million players by January 2022, the largest launch in franchise history.

Game Developer | Visual Concepts (2K)

January 2021 - August 2021 · California (remote)

- Developed in-game features, gameplay mechanics, and systems in C++ on NBA 2K22; credited as an additional engineer on the PlayStation 5 release. Take-Two reported the title at more than 10 million units sold-in.

Founder / Principal Engineer | NJLIGames Ltd

October 2010 - Present · Mount Sinai, NY

- Architected and maintain a proprietary cross-platform C++ engine (Windows, Linux, macOS, iOS, Android) powering 10+ original games and VR experiences: OpenGL ES rendering, 3D math and physics, optimized memory management, multithreading, and the CMake/CI build systems that ship five platforms from one codebase. Public at github.com/njligames.
- Design, build, and operate two live original daily games: Musicianle (C++20 backend serving the corpus from memory, Flutter client, data pipeline over MusicBrainz and Wikidata) and Proven Sudoku (every board proved solvable by logic alone, generated deterministically from a shared seed so every platform serves identical puzzles, graded against a documented base of 122 solving techniques).
- Built games under contract: Yappy Birds for Navitude and the ELIA Typing Challenge, an accessibility typing game for ELIA Life's tactile ELIA Frames alphabet, alongside the studio's own BlasterBots.

Game Programmer | Powerhead Games

2006 - 2010 · New York, NY

- Shipped seven Nintendo DS, DSi, and Game Boy Advance titles for 2K Sports, Konami, Ubisoft, and Powerhead's own label; per-title credits in the Shipped Titles section above.
- Glow Artisan, the studio's first original IP, won Best Mobile Game Design at the 2010 IGF Mobile awards, scored 9/10 from Nintendo Life, and was named by Microsoft in the Windows Phone 7 Xbox LIVE launch lineup.
- Shipped inside hard handheld constraints, where memory budgets are measured in kilobytes and megabytes.

REAL-TIME AND INTERACTIVE EXPERIENCE

Project Lead Developer | National Institute of Standards and Technology (NIST)

March 2022 - November 2022 · Virginia (remote)

- Led an augmented reality project using Unity, HoloLens 2, and Vuforia object recognition to improve first-responder effectiveness, from prototype through field evaluation with an emphasis on usability.

Software Systems Engineer IV | Envrmt by Verizon

January 2017 - June 2019 · Remote

- Integrated 3D physics into VR, AR, and 360° video streaming services across five platforms; built the AR Designer iOS app in Swift with Cognitive3D analytics; improved the engine's CMake and Jenkins CI and built tooling for the EvrVault asset platform.

ADDITIONAL EXPERIENCE

Principal Roku Developer, Comcast (2023-2025): led the team owning the Roku Video Player used by millions of subscribers. **Senior Roku Developer, NBCUniversal** (2026). **Senior Software Engineer, Neology** (2024-2026): multithreaded real-time C++ tolling systems processing millions of daily transactions. **Senior Software Engineer, Warner Bros. Discovery** (2020-2022): Discovery+ across Roku, iOS, and tvOS. **Platinum Team Lead, Scale AI** (2023-2024): led coding experts producing AI training data across C++, Python, JavaScript, Java, and SQL. Earlier: Block One, OTG Management, CA Technologies, OpenLink Financial, Pitchblack Games.

EDUCATION & CERTIFICATIONS

Doctor of Science, Computer Science (in progress), University of North Dakota

MBA, Business Administration & Management, Strayer University (2022)

B.S., Computer Science, Stony Brook University · A.S., Computer Science, Suffolk County Community College

Certificates: Machine Learning, Columbia Engineering (2019) · Machine Learning with Python · Agile with Atlassian Jira