

Michael Nowakowski

michael.j.nowakowski@gmail.com · 507.269.3706 · nowakowski-studios.com · linkedin.com/in/michael-j-nowakowski/

Senior software engineer with over 8 years of experience building content-creation pipelines, artist tools, and developer platforms for creative technologies.

SKILLS

Domains: Developer Platforms (DevOps, DevEx, CI/CD, SDLC Workflows), 2D/3D content-creation pipelines, GenAI Tools, Cloud & Platform Engineering, Machine Learning, macOS Application Development, Full-Stack Web Development, Data Visualization

Languages: Python (expert), JavaScript, TypeScript, Shell (Bash / Zsh). Basic knowledge of Groovy / Rust / Swift.

Platforms / Services: Rez, Shotgun / Flow Production Tracking (API, Toolkit), Claude Code, Perforce, Git (Bitbucket/GitHub/GitLab), Artifactory, AWS (S3), Jenkins, Sentry, Deadline, Docker Swarm, Kubernetes, Ansible, DCC Integrations (Maya, Blender, Houdini)

Tools: FastAPI, pytest, uv, ruff, Flask, Django, Pydantic, Qt (PyQt / PySide6), Vue, React, GraphQL, REST, SQL / NoSQL, USD

EXPERIENCE

Senior Software Engineer (ICT4) · Apple, Inc · 2023 – Present

- DRI for the Vision Interactive Studio's Python dependency-resolution, environment-management, and software-delivery ecosystem, built on the open-source project [Rez](#). Replaced a legacy NFS fileshare with Apple cloud object storage (S3) in a staged, zero-downtime migration delivering up to 15x faster caching and 100x faster dependency resolves, while serving millions of package downloads per year. Added support for cross-platform SSO/mTLS authentication and a new scalable permissions model that enables granular package access controls, from individual groups to Apple-wide access.
- Enhanced studio developer experience. Created foundational Python packages for integrating both team-hosted and Apple-wide services. Architected a widely-adopted DevOps workflow that combined a low-friction Jenkins CI/CD process for linting/formatting/testing/releasing new packages (used by ~20 developers across 63 repos) with Sentry for monitoring. Built script for converting PyPI packages to Rez, which was used to create hundreds of new multi-arch + cross-platform packages. Developed FastAPI-based REST API for Rez metadata, containerized and hosted in Docker Swarm, which served as a template for subsequent web applications. Created suite of Rez developer productivity tools based on user feedback and personal initiatives.
- Primary developer and frontline support for a macOS desktop launcher application that resolves, launches, and licenses content-creation software for artists and developers. Made numerous quality-of-life enhancements (Retina UI, one-click updates, debug info) alongside major updates for new Rez features and a threading architecture overhaul to increase stability and responsiveness.
- Led the team's adoption of AI tools. Wrote guidelines for LLM-based development. Configured AI-assisted code reviews using Claude to keep quality high as pull-request volume grew. Built new repo for CI/CD error summarization and automatic solution recommendations. Packaged and experimented with using MCPs for Blender/Maya to support production work.
- Contributed to a 2D-to-3D asset-generation machine learning project that shipped as part of Reality Composer Pro Assistant. Organized 3D source material into a new database to ensure accurate reporting, used creative content expertise to investigate and fix render failures, and built bespoke app for reviewing training data.

Software Engineer (ICT3) · Apple, Inc · 2022 – 2023

- Spun up self-hosted Sentry instance and created a developer-friendly, easy-to-adopt logging library for tracking error data and metrics across the studio. Created metrics dashboards to track hardware types and software usage, and proactively fixed errors surfaced by the new exception handling.
- Built integration for Deadline/Perforce/NVIDIA Omniverse, enabling job orchestration and processing for rendering explorations.
- Added multi-architecture package resolution to Rez to support the Intel (x86_64) to Apple Silicon (arm64) transition.

Lead Technical Director (Lead Software Engineer) · LAIKA, Inc · 2021 – 2022

- Led a team of four developers. Met with internal clients (artists and production managers), scoped requirements, built tools, and shipped code at a high velocity to meet demanding and rapidly changing production priorities. Onboarded six new teammates.
- Integrated a new machine-learning based scheduling system, enabling fast rescheduling and leveling of multi-year asset-fabrication schedules containing tens of thousands of tasks (see Talks below for more details). Created new web-based data visualization and reporting tools which empowered managers to make better staffing and scheduling decisions. Collaborated with Production Management to model the complexities of LAIKA's hybrid animation style from physical asset fabrication through post.

Pipeline Technical Director (Software Engineer) · LAIKA, Inc · 2019 – 2021

- Developed workflow solutions and DCC integrations using desktop and web-based frameworks, including full-stack web development. Supported users with a wide range of technical issues, and delivered speedy fixes for critical problems. Developed a Python library to replace two in-house database API wrappers, improving connection and query times by 2-20x.

Junior Pipeline Technical Director (Jr. Software Engineer) · LAIKA, Inc · 2017 – 2019

- Designed and built a user-friendly web-based concept/reference image publishing and organization system.
- Made architectural and performance improvements to a large existing studio codebase, with a focus on query efficiency. Drove several major database refactors and data migrations to improve developer and end user experience.

TALKS

"Automated Resource Leveling & Scheduling at LAIKA" (2020) — [ACM SIGGRAPH](#), [Autodesk Vision Series](#), [Autodesk University](#)

EDUCATION

Northwestern University B.A., Computer Science & Film (double major). 2016.

Coursework in Computer Science (*Human-Computer Interaction*, *Computational Photography*, *Machine Learning*, *Databases*, *Algorithms*, *Data Structures*, *NLP*, *3D Graphics*) as well as Filmmaking (*Directing*, *Cinematography*, *Editing*)