PJ Kumlue

⚲ United States ✉ pj.kumlue@gmail.com ▯ 3608013225 in/pjkumlue ☁ www.pjkumlue.com/

SUMMARY

Software Engineer with 4+ years of professional software development experience and 12+ total years of coding experience. Passionate about delivering reliable, scalable, and maintainable software while solving complex problems across a variety of domains.

EXPERIENCE

Senior Software Engineer | READY Robotics | Columbus, OH | February 2020 - June 2024

· Maintained READY's core software product offering consisting of 6 user-facing C++ Qt applications and 15+ back-end services used for configuring, controlling, programming, and monitoring various industrial robots, devices, and machinery.
· Oversaw full-stack development of web applications using React, NestJS, and TypeScript, creating a robot test suite deployment platform managing 200+ automated robot tests, a palletizing wizard, and tooling for a new file format to encode robot programs.
· Developed an API with C++, Protobuf, and ZMQ for commanding and querying robots, and also designed a robot driver framework enabling the 4-person robotics team to integrate 50+ robot models across 10+ robot brands with the READY system.
· Programmed the Yaskawa robot driver in C for the YRC1000 and YRC1000micro controllers which was subsequently deployed to dozens of factory floors nationwide and used to fulfill several industrial automation contracts worth up to $500k+ each.
· Wrote automated tests using Python with Squish to validate over 300+ robot and user interface product requirements.
· Designed a brand-agnostic C++ robot driver and communication schema used by 6 robot vendors, reducing redundant code by 50%.

Content Associate | Codecademy | New York, NY | November 2019 - April 2020

· Created C# course material for an online interactive programming learning platform with 40m+ registered users.
· Crafted 300+ lessons, assessments, code samples, and review cards to illustrate core C# concepts.

PROJECTS

Zodiac | Graal Online | github.com/PolarisJunior/game-gs

· Revitalized a MMORPG by developing frequent content updates leading to 100% increase in average concurrent player count from 60+ to 120+, and reaching an all-time high of 240+ peak concurrent online players.
· Maintained a 100k+ LOC JavaScript-like code base with two decades of history while refactoring for modern code standards.
· Optimized code and SQL queries for player item storage tables with 1m+ rows to improve response time by 100x on transactions.

Transmogrify | Odyssey Entertainment | www.playtransmogrify.com

· Developed enemy AI, game mechanics, physics, UI components, and visual shaders for a 2D platforming game using GDScript.
· Resolved a critical bug with Skeleton2D components in the Godot C++ source code to fix an elusive graphical issue.

Cosmic Symphony | University of Washington | github.com/PolarisJunior/Quest

· Developed a Unity C# virtual reality rhythm game for SteamVR and OculusVR platforms and showcased at UW technology fair.
· Optimized AI flocking behavior by leveraging GPU compute to smoothly simulate 1000+ boids on resource constrained VR headsets.

EDUCATION

Bachelors of Science in Computer Science | University of Washington | Seattle, WA | 2019 | 3.6 GPA

· Dean's List Ab Initio
· Actor for Undergraduate Theatre Society

SKILLS

Languages: C++, Python, TypeScript, SQL, Elixir, Rust, Go, C#, Java, Clojure, Racket, GLSL, HLSL, CSS

Libraries & Frameworks: React, Qt, FastAPI, NestJS, NextJS, Three.js, ROS, Squish

Other: Unix, Bash, Git, Docker, PostgreSQL, MongoDB, REST, Protobuf, gRPC, Agile, TDD