Kevin Lopez

Software Engineer

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R&D-focused Software Engineer with 6+ years developing complex applications for IoT platforms, embedded systems (Java, C/C++), and interactive 3D simulations (Unity/C#). Seeking to apply expertise in C/C++, Python, C# (Unity), simulation, and embedded system development to build innovative embedded systems and interactive applications.

Technical Proficiency

- **Programming Languages:** Java, C/C++, C#, Python, JavaScript, TypeScript, Kotlin, Assembly, HTML, CSS, XML, Bash, Ruby
- **Frameworks:** Unity, Node.js, React Native, React
- **Build Tools:** Gradle, Maven, npm, yarn, grunt
- **Version Control:** Git, GitHub
- **IDEs:** Jetbrains IDEs (IntelliJ, Rider, WebStorm, PyCharm), Visual Studio Code, Android Studio
- **Operating Systems:** Windows, Linux, Android
- **Cloud Technologies:** AWS (EC2)
- **Virtualization:** VirtualBox
- **Specializations:** Internet of Things (IoT), Game Development, Artificial Intelligence, Machine Learning, Natural Language Processing (NLP), Embedded Systems, Robotics

Professional Experience

Control Concepts Inc – Cumming, GA (Remote)   **Feb 2019 – Present**
Software Engineer

- Developed C/C++ programs for IoT/Embedded systems processing real-time sensor data.
- Designed core algorithms and engineered corresponding Java/Kotlin modules via the Niagara Framework API, optimizing system performance and enabling advanced features, analytics, and external system integration support (e.g., Samsung).
- Engineered intuitive real-time UI/UX applications, accessible via web and mobile, for equipment control and data visualization, leveraging Java and a component-based IoT core framework for efficient development serving diverse user groups including end clients and internal specialists.
- Researched and developed reusable software components for the core platform (notifications, diagnostics, data management), which were subsequently integrated by the specialist team into client-facing solutions.
- Architected network interconnectivity (TCP/IP, UDP/IP, HTTP/HTTPS, Ethernet) for a large-scale, diverse IoT ecosystem encompassing 50+ product lines and supporting hundreds to thousands of end devices.
- Concurrently developed and drove 5-10 end-to-end software projects through requirements analysis, design reviews, implementation, and testing phases.
- Leveraged CI/CD methodologies for automated build, testing, and deployment of complex embedded/IoT software applications.

Projects

- **AI-Driven NVIDIA Robot**: Designed and built a self-driving robot equipped with camera vision, leveraging computer vision and localization AI techniques to automate driving. Utilized Linux, Arduino, NVIDIA Jetson Platform, and Raspberry Pi.
- **Mobile Data Repository**: Developed a cross-platform mobile application using React Native, JavaScript, TypeScript, demonstrating robust API integration and implementing asynchronous data fetching from a large public RESTful API to populate a dynamic catalog of over 1000 unique entries.
- **3D AI Combat Game**: Created a 3D Unity game featuring custom AI pathfinding and a dynamic combat system (melee/weapon mechanics) scripted in C#. Implemented robust collision detection and optimized game performance, showcasing advanced skills in game architecture, C# scripting, and debugging.
- **Predictive Imputation:** Constructed a tool for data classification and imputation, predicting new data through the implementation of machine learning algorithms including K-means, basic-means, linear regression, and random forests, using Python libraries (scikit-learn, pandas).
- **Conversational NLP**: Researched NLP techniques from academic publications and developed a functional AI chatbot prototype in Java capable of classifying user input and generating contextually relevant responses within conversational flows.
- **Server Interaction Manager:** Engineered a Node.js chat automation tool that utilizes external APIs to process and respond to real-time user interactions within an online community platform. Implemented server moderation and automated response functionalities using JavaScript and asynchronous calls.

Education and Certification

- Bachelor of Science in Computer Science – Georgia State University   2018
- Tridium Niagara N4 Developer Certification   2025