John Arena

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Skills

Languages & Core Tech: Python, Dart/Flutter, TypeScript, Java, C/C++, Swift, JavaScript, HTML, CSS, SQL
Tools & IDEs: Git, Android Studio, VS Code, Xcode, Github Copilot
Embedded & Hardware: Embedded C, KiCad (PCB Design), STM32, VHDL, MATLAB, AutoCAD, Oscilloscope

Experience

Software Engineer II July 2022 – Present
Clarivate Analytics *Remote*

- Led the end-to-end rebuild of a legacy drug coverage app in Dart/Flutter, consolidating three code-bases to reduce client-side maintenance debt by 70% and achieving a sustained 5/5 star rating post-re-release
- Engineered the core Dart/Flutter solution with a scalable, robust architecture that successfully passed a 100% security audit and utilized Alpha/Beta testing with structured groups
- Authored comprehensive technical documentation for the new Flutter architecture, which enabled seamless asynchronous onboarding and collaboration with developers in different time zones
- Resolved a multi-year production crisis by reverse-engineering minified unreadable production code for our Veeva solution and engineered a local QA environment, resulting up to 90% reduction in development time
- Leveraging this restored stability, successfully modernized and updated the unmaintained legacy TypeScript source code and achieved Veeva Silver Certification for the company
- Designed and developed five internal automation tools using Python to streamline the internal QA process, deliverable pipeline, and client setup/configuration, automating key packages for customer deployment
- Engineered the Veeva integration for dual compatibility with both Salesforce and Vault CRM to offer platform flexibility during customer migrations

IT Lead Jan 2020 – Sept 2020
PS1 – Bergen Elementary *Remote/Brooklyn, NY*

- Resolved 71 critical IT support issues within the first 5 weeks, successfully eliminating a significant operations backlog and ensuring service reliability
- Streamlined the IT support pipeline, reducing the average response time for user issues from over one week to an average of 24–36 hours
- Cleaned out/organized the tech storage closet, created comprehensive labeling and tracking system for all IT assets

Projects

Autonomous Sentry System

- Engineered the autonomous system (Embedded C) on the STM Nucleo-F7, implementing logic for object detection (ultrasonic sensors), motor control, and custom DAC audio output
- Developed the complete hardware-to-mobile control system, writing a Java (Android) app featuring a PDA-style UI with custom animations, providing real-time command control and status monitoring (e.g., firing) via Bluetooth
- Designed and fabricated the final custom PCB incorporating the STM chip, power circuitry, and integrated a robust communication stack using Bluetooth connectivity

Smart eBike Kit (Senior Capstone) – Team Leader

- Served as Team Leader for the senior capstone project, successfully organizing weekly design reviews, delegating tasks, and guiding the team through the full product life cycle
- Designed and fabricated critical hardware components, including KiCAD PCB design for sensors, turn signals, and power management; also performed 3D housing design and simulations of motor performance
- Developed all system-level software in C++/Python for speed/power management and sensor data acquisition; conducted rigorous 18650 Li-Ion cell testing to validate the custom battery pack design and overall system integrity

Education

City College of New York – B.E. in Computer Engineering May 2020