Nick Crast

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EMPLOYMENT HISTORY

Staff Engineer | Peacock / NBCUniversal | Remote | *Feb 2020 - Present*
Typescript | DASH | HLS | Shaka Player
- Designed & implemented DASH manifest parsing improvement in Shaka Player that improves video startup time by 20%
- Developed technical solution, software architecture, and led development of business critical Regional Sports Network (RSN) Embargo feature across all Peacock supported devices including Android, iOS, Javascript, and Roku
- Implemented and championed code quality analysis tooling used to identify, strategize, and prioritize architectural improvements to increase long term stability of the Typescript video player codebase

Senior Full Stack Software Engineer | Atmosphere IoT | Remote | *Mar – July 2016 & Feb 2017 – Feb 2020*
NodeJS | C | C++ | MongoDB | AWS
- Develop firmware for Out of Box demonstration application for NXP Rapid IoT Development Kit
- Design and implement cross platform embedded API to facilitate access to microcontroller peripherals and the Atmosphere Cloud
- Integrate a multitude of different development kits, wireless peripherals, and sensors into the Atmosphere Platform ▪ Implement User and Organization management system into Atmosphere using CASL to enforce user permissions
- Develop NodeJS web service responsible for efficiently compiling embedded code targeting multiple microcontroller architectures
- Implement flexible logging/alert system using AWS, PaperTrail and PagerDuty to increase reliability of product
- Refactor large system critical components of production NodeJS application to more safely utilize MongoDB using Mongoose ODM

Embedded Software Engineer | Humanistic Robotics, Incorporated | Philadelphia, PA | *Aug 2016 – Feb 2017*
C | C++ | Qt | STM32
- Developed firmware for Wireless Emergency Stop (WES) and Safe Remote Control (SRC)

Embedded Software Engineer | Saab Sensis Corporation | East Syracuse, NY *June 2013 – Mar 2016*
C | C++ | Buildroot | Embedded Linux
- Developed firmware for safety critical surface movement radar running on NiosII processor with Embedded Linux
- Collaborated with other engineers to design and implement timing-critical software within limited processing constraints
- Coordinated communication among I2C, SPI, and UART devices in monitoring health of the system
- Develop kernel drivers to communicate with memory mapped FPGA registers to provide low level access to hardware controls
- Designed, developed, and maintained build system using CMake and Buildroot

TECHNICAL SKILLS

Hands-on experience in: Video Player Technology, Adaptive Streaming, Microcontrollers, RTOS, SPI, I2C, Sensors, Scalable Web Applications, AWS, IoT

Wireless Protocols: WiFi, BLE, LoRa, Zigbee Mesh

Languages: Typescript, Javascript, C/C++, NodeJS, Bash

CI: Jenkins, GitHub Actions, CircleCI

EDUCATION

Syracuse University | Bachelor of Science, Computer Engineering *May 2013* **GPA:** 3.67 / 4.0 Syracuse, NY

PROJECTS

Dead by Daylight Icon Toolbox | Github
Typescript | Bootstrap | NodeJS | AWS S3 | Heroku
- Electron based Windows application for community generated content for the game Dead By Daylight
- Enable convenient browsing and user-friendly installation of content inclusive of artist attribution
- Support thousands of daily users
- Utilize DigitalOcean Spaces with Cloudfront CDN for fast content delivery of large files
- Create REST API via NodeJS hosted on Heroku to serve content and metadata, allowing the Desktop application to be a thin client
- REST API validated and defined using OpenAPI v3 Specification
- Oauth login via Steam to implement server side storage of user preference and favorites