JOHN DOWLING

john.patrick.dowling@gmail.com • 773-892-6626
github.com/johnpdowling • linkedin.com/in/johnpatrickdowling
Long Beach, CA • Open to Remote

SKILLS

Python • Gstreamer • Bash • Make • SVN • Git • C# • WPF • XAML • MSSQL • XML • FogBugz • Manuscript • WinForms • C++ • VB.NET • SNMP • Redmine • MSBuild • Bugzilla • OpenGL • PHP • PostgreSQL • Debian linux • TensorFlow • REST • JSON • Go • Docker • Kubernetes • Helm • Prometheus • Grafana • Bootstrap • Angular • Ionic • Cordova • Rust • systemd • AWS • CDN • HLS • MPEG-DASH

PROFESSIONAL EXPERIENCE

Rebellion Defense, Inc., Washington, DC
Sr. Software Engineer - Remote
June 2024 – Present

Product Name: IRIS

- Develop microservice-based full-stack software for the ingestion and fusion of heterogeneous sensor data for track recording, path prediction, and anomalous activity alert
    - Tune microservice scaling for deployment in both cloud clusters and edge compute
    - Root out issues leading to vastly increased workload scale with the same resources
    - Migrate 'docker run' deployments to Kubernetes
    - Perform R&D then add support for new messaging protocols to increase inter-service throughput while lessening resource overhead
    - Implement software & architecture changes to allow deployment in 3rd party environments
    - Add increased visibility of microservice metrics to increase team troubleshooting velocity
- Act as liaison between Engineering and Sales teams to advise on "the art of the possible"
- Understand entire product portfolio between the backend, frontend, infrastructure, and AI/ML teams in order to propose improvements, drive better outcomes, and empower junior teammates

Diversified Technical Systems, Inc., Seal Beach, CA
Software Engineer
February 2018 – June 2024

Product name: Naturalistic Data Recorder

- Develop embedded system software on Raspberry Pi platform for recording motion sensor, video, and GPS data for widespread research project (>800 units in test)
    - Communicate with daughterboard I^2C 6DOF sensor and record precisely timed data to file
    - Record incoming video streams from multiple cameras to files
    - Record incoming USB GPS data to file
    - Synchronize clocks with USB GPS and I^2C RTC so data across all units are time-aligned
    - Synchronize GPS & 6DOF data with recorded video files to aid review in third-party software
    - Provide status to user via daughterboard and on-camera LEDs
- Participate in requirements gathering with customer, define engineering requirements
- Work with members of SQA, Manufacturing QA, and Contract Manufacturer for the design and implementation of timely testing and verification procedures
    - Create web-based UI for both CM verification and in-field troubleshooting & updates

Product name: DataPRO

- Develop crash/test event data recording software for laboratories, manufacturers, and safety associations
    - Scalable and usable for tests involving 100s of sensor channels and to present recorded mechanical and biomechanical data in an understandable and easily searchable manner
    - Discover and configure networked and/or serial devices to be used in tests
    - Configure distributed devices to maintain precise time-aligned data within a system or between systems during tests
    - Download and store measured data, present it, and export to open or proprietary formats
- Develop database tables, stored procedures, and migration scripts for storage of hardware, sensor, and test data to be used locally or remotely
- Work with members of SQA, Support, and Firmware teams for the design, implementation, and testing of new features or updating of legacy ones
- Understand sensor design and signal flow down to electromechanical level
- Understand test manikin design for measurement of biomechanical data

Renkus-Heinz, Inc., Foothill Ranch, CA
Sr. Software Engineer
June 2006 – February 2018

Product names: RHAON, RHAON II

- Develop control & monitoring software for network-enabled self-powered loudspeakers. Features include digital beam steering, CobraNet and Dante audio routing, IEEE1722.1 communication (layer 2 & 3), on-board DSP, device health monitoring & logging, and email fault notification
- Understand Amplifier and loudspeaker design down to electromechanical level
- Institute and maintain bug/issue tracking, code repository, build servers, and build processes
- Work with Manufacturing Production staff to develop in-house device testing and measurement plug-in software and develop streamlined and/or automated manufacturing and testing processes.
- Provide technical advice during new product development
- Attend industry trade shows for both professional enrichment and as a liaison from the Engineering department in a Sales environment. Observe and note industry trends as well as interact with customers and end users to obtain feedback
- Travel to job sites in both pre- and post-installation support roles. Obtain in-situ feedback either personally or through observation of workflows
- Manage project tasks and direction for self, other Software and Firmware Engineers

EDUCATION

University of Chicago, Chicago, IL

- *Master of Science*, Computer Science
- *Bachelor of Science*, Computer Science
- *Bachelor of Arts*, Mathematics

Coursera

- https://www.coursera.org/learner/john-dowling