Wolfram Donat

Strategic Technology Leader

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Strategic Technology Leader with a dynamic background in spearheading the design, development, and implementation of advanced hardware applications and software solutions, tailored to meet customer needs. Known for driving technical excellence and innovation, I've led groundbreaking projects, including the creation of computer systems for new orbital welding machines, a global electronic monitoring system for commercial fisheries, and a fleet of semi-autonomous boats. My expertise extends beyond engineering, encompassing strategic project management from conception to completion, ensuring adherence to timelines and budgets. I excel in guiding teams through the complexities of software development, application scaling, and web service production, while fostering an environment of technical problem-solving and efficiency improvement. With a solid command of Python, Flask, REST APIs, and proficiency in optimizing platforms using Python, C, and C++, my skill set is rounded out by fluency in ML, AI (LLMs), and IoT innovations. My leadership is characterized by a keen analytical mindset, exceptional problem-solving capabilities, and a commitment to cross-functional collaboration, driving not just technical, but strategic business outcomes.

Technical Proficiencies

Python | Linux | C++ | JavaScript | CSS | HTML | C | Bash | Git | MySQL

Career Experience

Arc Machines, Inc., Chatsworth, CA **2018 – Present**
Software Architect

As the Software Architect and head of the software department at AMI, I have spearheaded multidisciplinary technology teams in the pioneering design and development of new automated orbital welding power supplies and intelligent pipe weld heads. I facilitate seamless collaboration with ESAB's global technology development teams, directing AMI's technology adoption strategies and overseeing end-to-end operations. My role involves actively engaging with various engineering disciplines to spearhead the identification and resolution of product issues, enhancing product quality and reliability. Utilizing my expertise in Linux, Python, and microcontrollers, I routinely develop custom solutions that precisely meet customer requirements. My contributions extend to innovating in algorithm design, GUI development, system integration, and process automation, significantly advancing AMI's technological capabilities and market position.

- Led cross-functional technological team that created and marketed the state-of-the-art computerized orbital welding power supply known as the M317.
- Utilize knowledge of data analytics, Python, Linux, ARM, machine learning, and computer vision while developing effective software solutions for clients.
- Implement new technologies, including remote solutions, IoT cloud management, and computer vision while managing various technical projects.
- Increased overall efficiency, reduced welding defects, and enhanced user adoption by identifying and incorporating state-of-the-art technology and interfacing used in the new M317.

Phykos, PBC, Remote **2022 – 2023**
Software Developer – Consultant

As an Independent Technology Consultant for Phykos, I led the evaluation and enhancement of the codebase for partially autonomous ocean-going ships, focusing on innovative solutions for communications, motor control, sensor integration, and GPS tracking. My role demanded close collaboration with cross-functional teams and senior leadership to align hardware selections and communication protocols with strategic objectives. I spearheaded the design and implementation of algorithms for data analytics, logging, and anomaly detection, contributing significantly to the project's success by optimizing operational efficiency and advancing technological capabilities.

- Selected appropriate communication protocols and particular hardware such as sensors and SBCs.
- Developed front-end dashboard and command UI to enable seamless communication with remote vessels.

Aerospace Corporation, El Segundo, CA **2015 – 2018**
Computer Systems Research Engineer

Directed cutting-edge software and hardware research initiatives for high-profile clients including the NRO, US Air Force, and private sector contractors, focusing on pioneering solutions in inertial navigation and sensor networks for GPS-denied environments. My leadership extended to the creation of a versatile hardware platform for rigorous algorithm and system testing, utilizing microcontrollers, accelerometers, and single-board computers. Additionally, I spearheaded investigations into UAV autonomy, employing Python, OpenCV, and a suite of open-source technologies to achieve groundbreaking advancements in object tracking and autopilot systems integration.

- Tested real-time vehicle and license plate recognition using Raspberry Pis and image processing on IoT edge nodes.
- Converted radiation-hardened DSP image processing algorithms from proprietary languages into C and transferred into ARM-based computers.

Saltwater Inc., Anchorage, AK **2014 – 2015**
Systems Engineer

As the Systems Engineer at Saltwater, I architected and developed comprehensive technological solutions from the ground up, integrating IP cameras, Raspberry Pi, sensors, GPS modules, and embedded Linux systems to deliver sophisticated, client-focused applications. I pioneered the creation of standalone, autonomous systems for data and sensor logging, leveraging computer vision and video analytics to revolutionize monitoring and analysis of catch and bycatch measurements for commercial fishing vessels, significantly enhancing operational efficiency and sustainability practices. In addition, much of this was done under intense pressure and deadlines.

- Planned, programmed, and constructed a prototype system within six months, subsequently used in the NMFS East Coast Tuna project (then one of the biggest electronic monitoring programs across the globe).

Additional Experience

Software Developer – Consultant, X-Biomedical, Remote
Analyst/Web Developer – PangoMedia, Anchorage, AK

Education

Bachelor of Science (B.S.) Computer Engineering
University of Alaska, Anchorage, AK