BEN (DAPU) WANG

(+1) 267 206 1377 ◇ wangben3@gmail.com ◇ bendwang@seas.upenn.edu

EDUCATION

University of Pennsylvania - Sophomore *Sep 2018 - Present*
Jerome Fisher Program in Management and Technology *GPA: Cumulative 3.49 Semester 3.60*
BS. Electrical Engineering and BS. Economics at Wharton School of Business

North Sydney Boys High School *Jan 2012 - Dec 2017*
99.40 ATAR

EXPERIENCE

Althea: Blockchain Incentivized Mesh Networking Jan 2018 - Present
Software Engineer/Consultant *Skills: Rust, Blockchain, Linux Networking*

- Wrote and maintained mesh connection negotiation (Wireguard), blockchain authentication and billing software now deployed to hundreds of OpenWRT routers in 5 countries, providing competitive low cost internet service to underserved communities
- Implemented MVP of bidirectional blockchain (Ethereum) payment channel client using actor based asynchronous architecture in Rust, including cryptographic commitments routines and UDP based networking layer
- Now consults on integration of payment channels into billing software as well as on Rust software implementations

Formula SAE Electric Racing Team: Penn Electric Racing Oct 2018 - Present
Power Electronics Lead *Skills: Embedded C++ programming, Power electronics design, FPGA design*

- Wrote high performance C++ firmware with cache optimized data structures and hard real time requirements
- Lead design and manufacturing of FPGA controlled, 600V/80kW motor controller for award winning 4 wheel drive electric racecar using Wide-BandGap semiconductors, high density stacked planarized construction and Insulated Metal Substrate thermal solution

ODrive Robotics: High Performance Motion Control March 2019 - August 2019
Firmware/Hardware Engineer *Skills: C++/Python, High performance stream processing*

- Implemented software(Python)/firmware(C++) performance improvements which reduced USB connection latency by 10x
- Implemented high frequency (8kHz) data collection and graphing system
- Designed and laid out a highly integrated 60V 100A 3 phase motor controller for robotics application independently

COMMERCIALIZED PRODUCTS

Perf+: Compact and Efficient Electronic Prototyping Board May 2015 - Present
Inventor: Hardware Crowdfunding Project *Skills: Project Management, Outsourcing*

- Used Kickstarter to raise AU$ 15,461 from 614 backers for development and volume manufacturing for patented board designs
- Iterated and improved design based on user feedback, and raised a further US$ 11,898 from 217 backers on CrowdSupply
- Over 15,000 boards were manufactured in Shenzhen and all rewards fulfilled ahead of schedule to positive user reception

RemoteBoot: Remote Management module for Desktop Computers Nov 2015 - Present
Inventor: Hardware/Software Crowdfunding Project *Skills: ESP8266, C/C++, HTML, JS*

- Raised AU$ 17,589 from 431 backers for manufacturing and further development, with all rewards fulfilled to positive reception
- Deployed over 1000 devices worldwide, which have saved over 500MWh, reducing CO_2 emissions by over 350 tons

PATENTS

Field Configurable Electrical Routing Matrix for Electronic Prototyping Granted Nov 2015
Australian Innovation Patent: AU2015101706

Chair Mounted Optical Posture Sensor Granted Mar 2016
Australian Innovation Patent: AU2016100723

TECHNICAL STRENGTHS

Programming Languages	Python, Rust, C/C++, HTML, JavaScript, Java
Software & Tools	Linux, OpenWRT, FreeRTOS, Jupyter, Excel, Kicad, Altium Designer, Verilog
Embedded platforms	STM32, ESP8266/ESP32, AVR/Arduino
Hardware & Electronics	High power, Wide-bandgap (SiC, GaN), Motor controllers, Insulated Metal Substrate, FPGA