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IoT Architect in Orange County, CA.

I am an Systems Architect specializing in full-stack IoT and sensor systems. My 16 years of experience ranges from Unicorns to Defense, from routing PCBs to architecting high-throughput, low-latency cloud computing systems. My hardware designs and software implementations have been in space, military training, consumer hands, and manufactured in large-scale, 6-figure production runs. I've lead small, focused teams and larger cross-disciplinary teams (30+ engineers). I have architected Big Data platforms, pioneered R&D efforts, authored whitepapers and evangelized products to clients and investors. My experience is broad – and I'm always looking for something new to learn.

EXPERIENCE

IoT Architect, Staff Solutions Architect — **02/2015 - 10/2019**
Uptake — **Chicago, IL** ***(remote)***

- Recruited and lead a team to to develop, design, produce and maintain novel IoT hardware and cloud architecture, data ingestion, and device management for over 20 clients.
- Managed R&D and special projects teams to rapidly ingest, transform and visualize data, to build POC and POM systems directly resulting in 6+ multi-million dollar deals in Energy, Fleet and Defense verticals and the opening of 2 new lines of revenue.
- Founded the Sales & Solutions Engineering group to interface between clients and Uptake's sales force on all technical matters including live demonstrations, technical presentations, readiness assessments, POC/POMs, and proposals. After 1 year, a deal was 60% more likely to be signed when a Sales Engineer was part of the process.
- Authored technology roadmaps, IoT strategies, data migration, disaster recovery and data backup strategies and cloud performance tuning for many clients, reducing recurring costs by 6 figures and ensuring long term relationships.

Director of Instrumentation and Simulation Technology Insertion – Hardware; TS clearance — **10/2004 - 10/2014**
SRI International — **Bay Area, CA**

- Directed the FlexTrain Hardware R&D team to develop sensors and systems for a realtime asset tracking platform. Reduced production and fielding cost by 80% while improving reliability and throughput by an order of magnitude, increasing profitability enough to spin the technology into a spinoff.
- Accelerated use of geospatial technologies, virtual terrain generation and neogeography to dramatically reduce data gathering costs from 6 months and $1.8m to less than 4 weeks and under $100k per project, and revolutionize geospatial data display for the JTEP program.
- Guided use of human-machine interaction in real-world training applications to productize a nacent technology in BRIGHT

Projects & Hobbies

Explor: Architected full stack and application foundation, established the technology roadmap, assembled a remote development team and directed the release of an MVP using cloud-based services and production-quality code in less than 6 months.
Chalkd: Tool to track and quantify indoor climbing, compare with friends, and inspire improvement.
GearBeta: Gear warranty and longevity tracking tool.
Keg-Minder.com: Internet connected sensors monitor and analyze your beer and kombucha consumption.
Matterport: Hypothesis-driven consulting on prototype hardware design, manufacturability and ruggedization.

EDUCATION

M.S. in Aerospace Engineering, California Polytechnic State University, San Luis Obispo
Lecturer of over 400 students in Intro to Aero, Spacecraft Design, Systems Theory and Advanced Spacecraft Dynamics courses. Thesis work on Kalman filtering of sensor data and control theory.

B.S. in Aerospace Engineering, California Polytechnic State University, San Luis Obispo
Spacecraft concentration with emphasis on control theory and radio communication systems.

PATENTS & PUBLICATIONS

Patent: Mesh Network Routing Based on Availability of Assets
determining that a given asset of a plurality of assets in a mesh network is likely to be unavailable within a given period of time in the future and in response to the determination, causing a routing configuration for at least one other asset in the mesh network to be updated.

Patent: Local Analytics Device
An improved local analytics device that includes a single-board computer with a high-capacity processing unit, configured to detect abnormal-condition indicators, enabling the asset (as opposed to a remote computing system) to execute a predictive model and corresponding workflow which may enable a user to take preventative and/or remedial action on the asset reducing latency by more than 95%.

Patent: Provisioning a Local Analytics Device
Methods for provisioning a local analytics device to interact with a remote computing system on behalf of an asset that is coupled to the local analytics device while ensuring security.

SKILLS

Python, C++, C#, AWS, S3, API, PostgreSQL, RabbitMQ, ES, Python, Java, Plotly, Javascript, D3.js, Node.js, React, Redis, Feather, Hadoop, HTML5, CSS3, JS, Angular, RasbPi, Arduino, Particle, TI, RDS, Lambda, Docker, Kubernetes, AWS IoT Greegrass, Amazon Kinesis, DynamoDB, MQTT, CoAP, WebSockets, Azure, GCP, Flask, Django, Database, SQL, Swift, Apache Spark, Hortonworks, Cloudera, Databricks, Devops, Operations, M2M, Matlab, geospatial, networking, GPS, ML, AI, IoT, CI/CD, Linux, etc. This part is really for the computers, but thank you for reading.