Alexandras (Alex) Birutis

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Overview
Systems engineer and business analyst with experience in fast-paced technical environments. Passionate about cybersecurity, data analytics, and embedded systems. More at https://alexbirutis.com/

#Projects

AUTONOMOUS DRIVING – ARIZONA STATE UNIVERSITY // 2018

- I have designed and programmed a self-driving robotic vehicle. The features included GPS boundary control, GPS and offline guidance systems, LIDAR enabled obstacle detection, crash avoidance, and emergency braking. The vehicle contained GPS navigation modules, inertia monitors, and a variety of other movement sensors. The computation was performed on a series of Arduinos, all communicating in real time.

TECHNOLOGY LEAD - ALCHEMI LABS // 2016-2018

- Alchemi Labs is an innovative outdoor apparel start-up company based in Scottsdale. I was responsible for designing social media campaigns and posts, editing video content, publishing advertisements, and performing general technical assistive tasks such as repairing computers, maintaining website content, and troubleshooting a variety of cloud platform issues. Managed SEO, Shopify, and web analytics.

SERVER ADMINISTRATOR – ATLASSERV// 2014-2017

- I built and maintained secure backup and virtualized application solutions. The servers operate on Windows Server Datacenter and have a custom cloud storage system using RAID arrays to support over-internet storage solutions. It operates a series of game servers and VPNs to allow users to connect from around the world to play videogames together. AtlasServ services also include a series of VMs available to remote desktop users. Configured hosting for websites, like https://alexbirutis.com/. I also administered the provisioning of resources for render farms for large project files. Optimized rigs are also being used to operate mass crypto-currency mining and high-speed trading programs.

DRONE POWERED REMOTE DATA COLLECTION // 2018-2019

- The objective was to create an autonomous drone system capable of communicating on 5G network infrastructure. The drone was to be used for remote data collection and then have it store the data on a central server. The system was capable of safe and reliable autonomous launch, mission selection, and recharging. I employed another computer system engineer to assist in software development. We achieved some advanced functionality such as video streams capable of providing live data for a spectator to view or save directly to the cloud.

RESEARCH ASSOCIATE– ARIZONA STATE UNIVERSITY// 2021-CURRENT

- Researching in the Secure, Trusted, and Assured Microelectronics (STAM) Center at the School of Computation and Augmented Intelligence, ASU. Current interests include IoT, 5G, security procedure, and distributed computing. My personal research is exploring the security vulnerabilities in distributed computing and communication infrastructure. This includes hypervisor-like distributed resource aggregation and decentralized machine learning algorithms deployed in distributed computing environments. More specifically, how they may be able to detect attack patterns, predict the attacker's goal, and dynamically deploy defensive countermeasures to combat the attacker.