Dusty Argyle | Software Engineer

Salt Lake City, Utah

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Highly motivated and capable engineer with experience in fast-paced, agile work environments. Experience leading teams and making technical decisions. Excellent, high-quality, professional and complete output.

Employment

DustyCodes **SLC, Utah**
President - Founder *Feb 2021 – Current*

Software engineering consultation. Create and support specialized software development for clients. Augment a software team with specialized skills in computer vision, deep learning, machine learning, robotics, drones, security, cloud infrastructure and ML Ops. Secure data labeling using state of the art human-in-the-loop processes.

Sharper Shape **Helsinki (Remote), Finland**
Director of AI/ML - Software Lead *Feb 2021 – Current*

Plan, Lead, and execute on high level technical business requirements. Manage Data Ops, ML Ops, Research, and Production teams. Support customers, sales teams and users with demonstrations and feature development. Conduct research on state of the art technologies in AI/ML realm.

Dataset creation and model training for RGB imagery and point cloud modalities in aerial infrastructure inspection tasks; including: Classification, Detection, Segmentation, Localization. Build clients for LLM interaction and operations in production environments.

Architect and implement infrastructure for AI/ML in AWS. Build efficient and scalable data pipelines with serverless compute. Support helicopter and drone operations in the field.

Sarcos Robotics **SLC (Research Park), Utah**
Technical Lead / Robotics Software Engineer *Feb 2017 – Feb 2021*

Develop and research technologies to advance robotic algorithms and controls. Give autonomous machines means and smarts to make decisions based on perception and objectives. Full system simulation design and implementation. Lead software architect on the AFRL/ARL drone projects.

Work with camera, lidar, radar, inertial navigation data to enhance robot capabilities. Sensor fusion from sensors to provide autonomous execution of user requested actions and fulfill the program's indicated goal safely. Develop several robotic system designs for terrestrial robots. Design and implement low level motor controllers and high level orchestration control algorithms.

Build interfaces to control and command the robot. Leverage technologies in computer vision and deep learning to gain additional perception. Add cloud and remote control capabilities to enhance features and accessibility. Infrastructure design and implementation to support production and development. Design and implement APIs for customers to be able to programmatically control the robot.

University of Utah - Application Deployment and Automation Team **SLC (Tower 102), Utah**
Software Engineer *Oct 2013 – Feb 2017*

Design, build and demonstrate new technologies to various groups around campus and hospital for potential adaptation. Integrate and automate for web development teams. Design development processes to leverage continuous integration tools.

Use configuration management tools to build and deploy sustainable and reliable services on development and production infrastructures. Practice agile development. Containerize applications.

Education

- **University of Utah** — **Salt Lake City, Utah**
  B.S. Computer Engineering — *2013–2016*

  Robotics, Algorithms, Artificial Intelligence, Embedded Systems, Technical Writing, Circuit Analysis, Data Structures, Probability & Statistics, Computer Organization and Design, Ordinary/Partial Differential Equations, Calculus, Physics, Linear Algebra, Computer Systems, Mobile Applications, Digital Systems Design, Web Software Architecture, Software Development and Architecture

Notable Projects

- **Low Collateral Effects Interceptor**: Multirotor counter UAS interceptor drone.
- **Asset Insights**: Autonomous inspection and anomaly detection.
- **ECLAIR Dataset**: Point cloud classification model and dataset based on Minkowski Engine.
- **Wildfire Mitigation With Aerial Sensor Data**: Analysis using AI and Machine learning on point cloud and image data to manage vegetation.

Technical Skills & Classes

Proficient Programming Languages: Python, C++

- **Machine Learning:** *'Python Development/C++ Inference'*

  Practiced in most Python modules/libraries. Several projects spanning detection, classification and generation via several CNN and DNN backbones. Optical character recognition. Point cloud classification and model training. YOLO, MMDetect, HuggingFace, etc...
- **AWS:** Proficient in all things AWS tooling and infrastructure. Knowledge of configuration management tools like Terraform and CDK's, Kubernetes and supporting tools.
- **Supporting Software Skills:** Linux/Unix, Markdown, Git, LaTex, Mostly CLI Tools
- **Hardware:** Nvidia GPUs, Nvidia Jetson, Connect-Tech, USB Cameras, MIPI Cameras, Echodyne Radar, Fortem Radar, Flir Cameras, Name your favorite LiDar, DJI, PX4 and Ardupilot based INS boards, ZED stereo-optic cameras, X-Box Kinect
- **Software:** Good software practice with clean and readable code. Excellent documentation practices. Experience developing and designing software practices for software engineering teams. Experience with Unreal Engine and Gazebo physical environment simulation.

References

- **Glenn Colvin** *'VP of Products'* (801) 918-9540
- **Ashley Guinan** *'Distinguished Engineer'* (402) 553-3344
- **Rex Jameson** *'Distinguished Engineer'* (801) 244-5592
- **Daman Bareiss** *'Principal Software Engineer'* (405) 642-9754
- **Chris Beaufait** *'CEO'* (616) 920-2538