LEAH HARTWELL

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EXPERIENCE

SYSTEMS ENGINEER | Deployments | **Zipline** *Dec 2024 → Ongoing*

→ Own end-to-end development and deployment of our RTK corrections network, which enables real-time, centimetre-level localization for flight-critical maneuvers

→ Created a GNSS-based dock surveying field tool that accurately outputs dock position to enable docking; cut survey time from 24+ hours to under 5 minutes, enabling rapid, reliable deployment across test and customer sites

TEST AUTOMATION ENGINEER | Ground Systems Test | **Zipline** *Jun 2023 → Dec 2024*

→ Led engineering validation for dock and tower camera modules, from defining component-level requirements and test campaigns to building automated lifetime testers that enabled scalable validation; work evolved into field tools for detecting critical hardware issues and the first deployed version of our visual preflight service

→ Built live, fleet-wide dashboards to monitor the performance of towers, kiosks, docks, and RTK base stations, enabling rapid field issue triage and automated maintenance alerts that were instrumental in successfully executing our final exam and launching our pilot

SYSTEMS ENGINEERING INTERN | Body and Closures | **Zoox** *May 2022 → Sep 2022*

→ Achieved a key safety requirement for Zoox's L5 vehicle by developing a closures object detection model that retracts doors when an object is hit during automatic open/close

→ Reduced tooling cost, removed user misuse, and met studio requirements by modeling new door casting features and forged brackets in CATIA to package hinges inside the door frame

→ Eliminated cost of manufacturing full door assemblies for actuator testing by designing a compact dynamometer to automate variable-load performance tests

EMBEDDED SOFTWARE INTERN | Radar | **BlackBerry** *Jan 2022 → Apr 2022*

→ Validated radar device's control modules by creating robust unit tests for each function within each target module in C/C++ using GoogleTest and Fake Function Framework

→ Improved user experience of radar data parsing application by producing a set of automation scripts in Bash to easily install, run and uninstall tool on Linux systems

ML RESEARCH INTERN | **3DQue** *May 2021 → Sep 2021*

→ Founded 3DQue's SpagettiVision™ by leading development of a 3D printer monitoring system that detects a variety of common 3D printing failure modes using TensorFlow and PyTorch

→ Saved countless hours of manual data collection by writing Python scripts that generate random print failure files and Bash scripts that auto-upload GCODE to printers while taking timelapses

SYSTEM TEST INTERN | **Verdi** *Sep 2020 → Dec 2020*

→ Developed models for proprietary sensing unit to be used in new seed-round smart valves to detect flow/no-flow conditions through drip tube using frequency data

→ Designed, built and programmed a test jig to rigorously test solenoid valves in order to choose the best and most economic option to be used within each of the Verdi smart valves

MECHANICAL DESIGN INTERN | **Bioform** *Jul 2020 → Jun 2021*

→ Responsible for designing and prototyping custom multi-layer nozzles, post-treatment and winding systems for production platform, which will create stretch wrap and medical tubing for our pilot trial

EDUCATION

BASc in Mechanical Engineering *with Distinction* | **University of British Columbia** *Sep 2019 → May 2023*

SKILLS

LANGUAGES Python | Bash/Shell | Rust | C/C++ | SQL

VERSION CONTROL Git/GitHub | Gerrit | Subversion

TOOLS Databricks | AWS | Snowflake | Mode

INTEGRATION Actuators | Sensors | Microcontrollers

CAD/FEA/CFD NX | CATIA | SolidWorks | AutoCAD

DOMAINS GNSS/RTK | Networking | HW/SW Integration