DEVON BRAY

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Senior Software Engineer with 6+ years of experience at the intersection of hardware and software.

EDUCATION:

Worcester Polytechnic Institute (WPI), Worcester, MA
Bachelors of Science in Electrical & Computer Engineering, with distinction, *May 2017*
Minors in Computer Science & English Literature

EXPERIENCE:

- **Senior Software Engineer,** TVision Insights, Boston, MA, *June 2021 – Present*
- **Software Engineer,** TVision Insights, Boston, MA, *November 2018 – June 2021*

TVision is a measurement startup using IoT devices to understand how people watch TV. Developed software components that run on the fleet of 5000+ devices throughout the US and abroad. Key contributor to passive OTT device (ex. Chromecast) measurement service, and computer vision pipeline.

- **Freelance Practice, Upwork + others,** Quincy, MA, *July 2018 – Present*

Operate a multidisciplinary prototype engineering service with clients ranging from sculpture artists to construction equipment manufacturers. Projects are typically small-batch production runs or POCs.

- **Engineer in Residence,** Hitchcock Management, Manchester, NH, *May 2017 – July 2018*

Led a series of research and development projects to assess the viability of given technologies to directly inform venture investments by CEO, Jeremy Hitchcock (Founder of DYN, aq. Oracle).

- **Measurement & Test Internship,** Corning Incorporated (GLW), Corning, NY, *May – August 2016*

Created CV pipeline to measure height of catalytic converters on an in-line production process.

- **MADE@MassChallenge Internship,** MassChallange, Boston, MA, *June – August 2015*

Ran operations of the Hardware Lab. Worked with hardware startups to develop and test prototypes.

PROJECTS:

(visit devonbray.com for complete portfolio)

- **ACCESS (Advanced Content Collection/Examination Service),** TVision Insights, *May 2020 – Present*

Engineering lead on Python service that detects and measures OTT devices.

OTT devices are discovered using multicast protocols, then queried directly for content status if available. In cases where content status is not available, advanced networking analysis is used to infer content from traffic metadata. My longest running project at TVision, I've lead development from research project to fully productionized service running on the devices, producing sellable data.

- **python_project**, TVision Insights, *January 2020 – Present*

Created Template repository that makes it simple to set and meet quality standards for Python repos.

Based on CookieCutter, projects created with template come with Black/isort for formatting, pylint for linting, mypy for type checking, pytest for unit testing and pytest-cov for test coverage.

- **Device Health Investigation Utility**, TVision Insights, *March 2020 – Present*

Created db query/visualization tool to solve esoteric problems with our devices in the field.

Joins logs via Scalyr, telemetry via HostedGraphite and content of uploads in Redshift Database together on one set of time axes for analysis. Critical for debugging edge-case reliability issues.

- MK4 Digital Dashboard, Hitchcock Management, *May 2017 – June 2018*

Digital dashboard for a kit car to serve as a research platform for automotive IoT.

Hardware UI implemented with touch screen and tactile buttons/switches. Gauge cluster UI and written in JavaScript on top of an Electron stack. All input/output signal processing was handled by a custom designed ATmega2560-based PCB. Bare-metal control of starter, wiper, windows, headlights and cruise.

- Compliant Hook Arboreal Mobility Platform (CHAMP), WPI, *August 2016 – May 2017*

Tree-climbing robot designed to improve the safety and efficiency of arborist tasks.

Developed software and electronics subsystems inside of the robot as well as designed and implemented the operator interface. Used distributed computing system inside the robot based on an RS485 network.

- www.esologic.com, *January 2012 – Present*

Catalogs the development of open-source projects. Goal is to share useful engineering techniques and methods, promoting the open exchange of ideas. Featured on RasbperryPi.org, Lifehacker and Hackaday.

SKILLS:

Software: ***Languages:*** Python, C/C++, Arduino, JavaScript, HTML+CSS ***Tools:*** CircleCI, Docker, Flask, QT, SYS/BIOS, Node.JS, JetBrains Pycharm, Git/GitHub, Slic3r, Virtualbox, Proxmox VE, Adobe Photoshop + Premier / **Hardware:** ***Tools:*** Solidworks (certified associate) KiCAD + Freerouting, EAGLE CAD ***Manufacturing Technologies:*** 3D Printing (FDM, SLA, SLS), PCB mfg through OSHPark & 7PCB as well as manually with CNC router, Lasercutter, Waterjet Cutter, 3 Axis CNC, Manual Lathe