Matthew W. Takao
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Professional Experience:

Boeing – Long Beach, CA
Systems Engineer (C-17 Avionics): April 2017 – currently employed

- Developed multiple data analysis tools using Python to help resolve field issues, including bus load balancing analysis, graphical representations of sensors/actuators, and pattern-recognition across large databases of raw binary data.
- Wrote and tracked ADRs (Avionics Development Report) to report issues found during testing. Updated software or requirements as necessary.
- Managed all open field issues and sent out a weekly status report to the division.
- Performed testing in a high-fidelity simulator to reproduce issues as well as to verify software fixes.

Pratt & Whitney (onsite with Mitsubishi Aircraft Corporation) – Nagoya, Japan
Flight Test Engineer (Engine Controls): April 2014 – March 2017

- Supported 200+ aircraft flights and ground runs for the MRJ both on-board the aircraft and in the telemetry room; provided real-time analysis and status checks during critical transients for engines and aircraft-to-engine interfaces.
- Recorded data on a CECM (commercial engine control monitor). Post-run, created plots in analytical slides to summarize expected behavior and identify unexpected behavior.
- Determined root cause for 5+ major engine-to-aircraft interface issues. Provided detailed logical analysis for unexpected behavior to both P&W and MITAC (Mitsubishi Aircraft Corporation) design teams.
- Identified mismatches between FADEC software and FFICD requirements. Submitted change proposals to the software and requirement documents as necessary.
- Wrote Python scripts to perform pattern-based analysis on data and automate redundant tasks.
- Provided daily reports to managements teams summarizing the day's activity, issues encountered, and future scheduling conflicts.
- Trained three Verification/Controls Engineers to be run qualified (able to support onboard or in telemetry).
- Reviewed 400+ MITAC test procedures to check that engine requirements were being met, and that proper engine behavior was being tested.
- Wrote 100+ fault injection scripts to model sensor/actuator failures for rig tests.

VideoIQ – Bedford, MA **Co-op Hardware Engineer: January 2012 – June 2012**

- Designed schematics for a 4 channel video server.
- Managed the production of temperature-dependent heating solutions for surveillance cameras.
- Tested and debugged surveillance software for longevity, stability, and accuracy.

iRobot – Bedford, MA **Co-op Electrical Engineer: January 2011 – June 2011**

- Tested battery performance and wireless connectivity on the Warrior robot.
- Designed a PCB board using Altium to test certain functionalities of the Packbot.

Conexant Systems – Waltham, MA **Co-op Electrical Engineer: January 2010 – June 2010**

- Wrote programming scripts to automate temperature and voltage testing for modem PCBs.
- Added and removed components to and from boards by soldering.

Education:

Northeastern University, Boston, MA - May, 2013
Bachelor of Science in Electrical and Computer Engineering
GPA: 3.46
Honors: Cum Laude, University Honors Program, Dean's List

Technical Skills:

OS:	Linux, Windows, Mac
Applications:	<Boeing proprietary software>, VersionOne (Agile), <UTIO proprietary software>, DOORS, SimuLink, LabView, Altium, MATLAB, PSPICE, Allegro, ModelSim, Microsoft Office, PuTTY, WinSCP
Languages:	Python, Bash, Japanese

Personal Projects:

Capit-Vita:	Python program to automatically screen and trade stocks and crypto-currency.
Twitch Escapes:	Python program, interactive "escape the room" game with Twitch channel chat.