Jennings Leavitt

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CAREER

TCN, Inc., St. George, UT - *Software Engineer II - Backend*

MAY 2021 - AUGUST 2022

Company focus: Cloud-based services for call centers.

- ➔ Worked actively with an agile-style front and back end team.
- ➔ Contributed to a new web-based product for workforce management using several algorithms and machine learning to predict future call loads and then create schedules to handle those call loads.
- ➔ Skills and Procedures developed:
  - ◆ Go, Python, gRPC, PostgreSQL, Docker, Kubernetes, GCP, REST api's, Unit & Integration testing, GitLab - VCS, CI/CD - bi-monthly releases, Hexagonal Architecture, Code Reviews - Peers and Code Owners

BYU – Configurable Computing Lab (*Graduate Research***), Provo, UT**

Back End Software Engineer – Embedded Systems

MAY 2017 - APRIL 2021

- ➔ Refactored a "Macgyvered" repository for one of the main tools used in radiation testing by our lab and sponsors.
  - ◆ This was a solo project assigned to me by the professor in charge of the project and I saw it through until the completion of the refactor
  - ◆ Almost exclusively in C++
  - ◆ Extensive use of design patterns
  - ◆ OOP
  - ◆ Interfacing with linux kernel drivers
  - ◆ Overall linux knowledge
  - ◆ Strong refactoring experience
- ➔ Developed tools used onboard during radiation testing to validate memory state and correct it if necessary
  - ◆ Tools:
    - Custom firmware, Linux kernel driver, Linux application
      - Automated initialization, logging, and restarting if necessary.
  - ◆ Skills:
    - C++ & C
    - Extensive experience with linux
    - Expertise in learning from complex technical documentation

- Used to running into roadblocks, and keep pushing to find a solution

Jiffy Lube, Orem, UT- *Assistant Manager*

JANUARY 2014 - MAY 2017

- I helped lead our store's team to its goal of hitting 1M in net sales in a single year!

EDUCATION

Brigham Young University, Provo, UT- *Bachelors in Computer Engineering*

JANUARY 2014 - DECEMBER 2018

RELEVANT CLASSES:

- **Intro to Machine Learning:** I learned about and coded by hand algorithms like K-Nearest-Neighbor, Backpropagation, and Decision Tree Learning, and grew familiar with several others.
    - Machine Learning, Algorithms, Python
- **Software Design and Testing:** Collaborated in a team project where we designed an android app based on the board game "Ticket to ride."
    - Software Design, UML, XML, Design Patterns, UI, FE/Client(s), BE/Server, Unit Testing, Java, MongoDB, SQLite

Brigham Young University, Provo, UT- *Graduate studies in Electrical and Computer Engineering*

JANUARY 2018 - APRIL 2021

RELEVANT CLASSES:

- **Self-Driving Cars:** My team and I implemented lane-following, object avoidance, Indoor positioning system (IPS) path-following, and basic traffic rules like stop signs and traffic lights.
    - System level programming, Multithreading, Task Scheduling, Multithreaded Communication (Queues in this case), Image processing, State Machines
- **Hardware/FPGA Verification:** I ran exhaustive automated testing on the L3 16-bit processor with a simple one-line command to verify that all the processor's design was correct!
    - Automation, Testing frameworks, Assertions, and
- **High-Level-Synthesis:** I competed with classmates to get the most efficient and/or fastest designs of common computations like matrix multiply or sorting functions to convert from software to hardware.
    - Algorithms, Optimization, Virtual and Physical memory models
- **Advanced Computer Networking:** During this class I worked on two team projects to analyze data retrieved from BYU's DNS servers. Ultimately we discovered, and proved, that we could prevent a from gaining a DHCP lease by assigning multiple identical hostnames.
    - Network protocols, Network security, collaboration
- **Advanced Wireless Networking:** For a project, my partner and I hacked several different personal android devices via bluetooth.
    - IEEE Protocols and Security for WiFi, IoT, BL, ZigBee, etc.

RELEVANT SKILLS

- **Languages:** C++, C, Python, Java, Go
- **Tools/Frameworks:** gRPC/Protocol Buffers, Docker, Kubernetes, GCP, Git, GitLab, PostgreSQL, SQLite, CI/CD, CI pipelines, Linux/Unix OS & terminal
- **Coding Standards:** REST api's, Unit & Integration Testing, Code Reviews, Design Patterns

PUBLICATIONS

Anderson, Jordan & Leavitt, Jennings & Wirthlin, Michael. (2018). Neutron Radiation Beam Results for the Xilinx UltraScale+ MPSoC. 1-7. 10.1109/NSREC.2018.8584297.