Luke Plewa

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I am a new college graduate looking for an environment where I can improve my engineering talents. I have a strong understanding of product needs, being able to understand the end-user, and intelligent design. I am an analytical thinker, always looking for ways to improve myself and my projects. See my portfolio at: http://luke-plewa.github.io/

DISCIPLINES: Machine Learning, Full-stack Web Development, Graphics, Mobile, Video Games
LANGUAGES: Python, Ruby on Rails, Dalvik (Android), Swift (iOS), Django, Javascript, Java, C++, C, PostgresQL, Redis, MongoDB, OpenGL
TOOLS: Git, SVN, Autodesk Maya, Latex, Adobe Photoshop, Moqups, RSpec, JUnit

Verdigris Technologies Mountain View, California June 2012 - September 2014
Software Engineer Intern

- Full-stack web development, databases, and machine learning experience, and firmware
- Energy consumption prediction algorithm for HVAC devices based on weather data in Python and Django
- Front-end in Ruby on Rails and Ember.JS
- Data visualization through D3.JS and Google Charts
- Firmware network improvements through Python, C, and Shell scripting
- Team growth from 4 individuals to over fifteen
- Communication between CEO, marketing, and customer experts
- Paired Programming and mentoring interns
- Organizational tools and startup culture: Trello (for workflow management), Objectives and Key Results (self improvement), Scrum development, biweekly sprints, and daily stand-ups

California Polytechnic San Luis Obispo San Luis Obispo, California
Bachelor's of Science in Computer Science *2010 - 2014*
Master's of Science in Computer Science *2014 - 2015*
Major GPA 3.6 - Dean's List (GPA over 3.5) across multiple quarters

Master's Thesis

- Prediction of sudden cardiac arrest using heart rates derived from wearable devices
- I collected a database of 300+ heart rates (much larger than existing, public solutions), which were evenly divided between healthy-in-hospital heart rates, healthy-out-of-hospital heart rates, and non-healthy heart rates
- Using a non-heterogenous meta classifier, I was able to achieve 96.36% classification accuracy with a F-score of 0.938 on only two minute samples of heart rate data to provide a five minute warning.

MACHINE LEARNING:

- Energy Consumption Predictor for HVAC Devices
- Sudden Cardiac Arrest Prediction through HRV
- NLP Naming Conventions for Self-Describing Code
- Stress-level Classification through HRV and GSR

ANDROID:

- Lava Knight: an OpenGL endless side-scrolling game
- Shape Recognition Implementation for Papyrus
- SkyNEST: Preferences learning application for NEST system based on schedule

iOS:

- Heart Rate and GSR collection application for use with Microsoft Band
- SceneKit game modeled after Candy Crush Saga

GRAPHICS:

- Level-of-Detail Mesh Simplification Algorithm for Video Games
- Data Visualization of HRV Features using Parallel-Coordinates

VIDEO GAMES:

- TCX: Networked, territory-control game with OpenGL and C++
- Hoth: OpenGL and C++ spacecraft shooter demonstrating mesh deconstruction
- Beardo: Enchant.JS game built for tablets and mobile