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/

MIND Research Institute October 2015 - Current Irvine, California
Data Analyst & Software Engineer

- Full-stack web development, database, and machine learning experience
- Java backend development with MySQL and writing a REST API with JSON attachments
- Javascript frontend with NodeJS and testing in Jasmine with Karma
- Student gameplay analysis clustering students by gameplay behavior and detailed charting
- Data visualization and classification of sales and renewals predictions for prospective schools

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

- Full-stack web development, database, firmware, and machine learning experience
- 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
- Team growth from four to over fifteen; through series A funding
- Communication between CEO, marketing, and customer experts
- Paired Programming and mentoring interns

California Polytechnic San Luis Obispo *Major GPA 3.6* San Luis Obispo, California
Bachelor's of Science in Computer Science *2010 - 2014*
Master's of Science in Computer Science *2014 - 2015*

Master's Thesis - Sudden Cardiac Arrest Prediction with Heart Rate Variability Features

- 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 ensemble classifier, I was able to achieve 96.36% classification accuracy with a F-score of 0.938 to provide a five minute warning.

LANGUAGES: Python, Ruby, Android, Swift iOS, Javascript, Java, C++, C, PostgreSQL, MySQL, Redis, MongoDB, C#
FRAMEWORKS/LIBRARIES: Rails, Django, OpenGL, NodeJS, EmberJS, Jasmine, JUnit, RSpec
TOOLS: Git, SVN, Latex, Adobe Photoshop/Illustrator, Moqups, Jira, Scrum, Agile, Sprint, Unity, Atlassian tools

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MACHINE LEARNING:

- Kaggle competitions with top 10% finishes using XGBoost, ensembles
- 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:

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

GRAPHICS:

- Level-of-Detail Mesh Simplification Algorithm for Video Games
- Game level editor for multiplayer territory-control game similar to Halo's Forge

VIDEO GAMES:

- TCX: Networked, territory-control FPS game with OpenGL and C++
- Beardo: Enchant.JS game built for tablets and mobile
- Friendly Sprites: Infinite runner and collector built in Unity