Andrew Dixon

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Summary Statement:
Mechanical engineer → Software engineer. A lifelong student, creative, and passionate about craftsmanship.

Education:
University of Massachusetts Amherst
Bachelor of Science, Mechanical Engineer, 3.5 GPA   *May 2016*
Certified SOLIDWORKS Professional (CSWP)

Technical Skills:
JavaScript, ReactJS, Elixir, Phoenix, PostgreSQL, Redis, RabbitMQ, SASS, Git, HTML, and SOLIDWORKS CAD.

Work Experience:

Localvore Web Development Intern   *March 2017 – May 2017*
- Worked on a RESTful API with a microservice architectural style. Gained insight into the product development and design of the system architecture for a tech startup in a strong push to launch.
- Used Elixir an ReactJS, monitored and reviewed PRs, wrote tests, and developed an email campaign.

SOLIDWORKS Technical Support Intern   *Summer 2015*
- Worked as a customer service representative, troubleshooting SOLIDWORKS customer service requests, submitting software performance reports, searching large databases using SQL, and bug testing using VMWare Virtual Machines.
- Significant practice 3D CAD modeling, writing in technical prose, and using semantic language to query.

Elitescans   *Summer 2013*
- Started a small business scanning, indexing, digitizing, and shredding legal documents for local real estate lawyers.
- Marketed Elitescans at a local BNI meeting and designed a website for advertisement.
- Optimized scanning time and index categories based on customer feedback.

Various Restaurants – cooking and serving   *Every Year 2011-17*

Projects:

Classy – A Generic Classifier   *Current*
- Currently writing a Phoenix monolith for classifying datasets. It will provide the ability to train data, define a taxonomy, and categorize untrained data providing certainty scores.
- It will test out all potential machine learning algorithms for the best fit, and will train itself with each new dataset.

ReactJS File Reader   *Current*
- A flexible ReactJS component for handling styled HTML file inputs returning HTML FileLists or base64 strings.

Senior Design Project: Pedal Charge   *Spring 2016*
- Designed and prototyped a bicycle-powered, seatpost-mounted cellphone charger using SolidWorks and manufacturing techniques such as water-jet cutting, milling, lathing, and 3D printing.

Created a Tilt-Activated "Wah-Wah" Guitar Effect   *Fall 2015*
- The idea: design a sound accentuation for guitar players to incorporate via motion or dance.
- Designed a peaked band-pass filter with a center frequency that varied with the angle of the guitar neck.
- Implemented using both discrete and analog methods: Used MATLAB and Simulink to create and test the frequency-selectable filter on recorded audio files in discrete-time. Used a variable resistor, a gyroscope/accelerometer, and an ATmega328 microcontroller programed using Arduino software to prototype the "Wah-WahTilt" in real time.

Designed a Cruise Controller for a DC Motor   *Fall 2015*
- First, identified the transfer function of a DC motor's response to varied input voltage, resistance and capacitance values.
- Then, designed a PID controller using MATLAB and Simulink, and implemented the controller using LabVIEW software.

Collision Avoiding Car Project   *Fall 2014*
- Worked in a team of three to design the car and program a microcontroller using Arduino software.
- Designed to detect an object, reverse the direction, turn right, and then drive forward using turning signals.

Achievements:
Earned rank of Eagle Scout   *April 21, 2012*

Interests:
Hiking, Biking, Skiing, Soccer, Guitar, Reading, 2D & 3D Art