Alexander Safonov

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EDUCATION

University of California, Los Angeles **GPA:** 3.85/4.00
Degree: Electrical Computer Engineering M. Sc **Expected Graduation Date:** 06/2020
Emphasis Area: Signals and Systems Track, Signal Processing

Relevant Coursework:

Computational Imaging – Fall 2018 Large Scale Data Mining: Models and Algorithms – Spring 2019
Convex Optimization – Spring 2019 Neural Networks and Deep Learning – Spring 2019

University of Minnesota- Twin Cities **GPA:** 3.77/4.00 (cumulative)
Degree: Biomedical Engineering B. Sc **Graduation Date:** 05/2018
Emphasis Area: Neural Engineering

Technical Skills:

Languages: MATLAB, R, Python (Sklearn, Torch and Tensorflow) *Research Interests:* Event Anticipation, Scene Understanding

LABORATORY EXPERIENCE

The Visual Machines Group, *Los Angeles, CA* December 2018-Present

- Currently working on a method of more reliable and interpretable car accident prediction by incorporating physics into deep learning
- Have experience implementing and understanding of SOTA methods for tracking, trajectory prediction and distance estimation

Barocas Laboratory, *Minneapolis, MN* April 2015-April 2018

- Created MATLAB testing procedures for the discrimination of high frequency vibrations of Pacinian Corpuscle using non-sinusoidal input waveforms.
- Ran vibrotactile simulations and constructed a simplified version of a computationally intensive finite element model of the Pacinian Corpuscle
- Extracted Facet Capsular ligaments from cadavers and ran mechanical tests to assist with mechanical modeling experiments

WORK EXPERIENCE

UCLA, *Los Angeles, MN* September 2019 - Present

Introduction to Neuroscience: Teaching Assistant

- Helped plan and lead discussion in an upper-division course focusing on molecular and physiological mechanisms in neuroscience.

BREES Program: MATLAB Instructor

- Created material for and taught a two week course aimed at teaching transfer students programming skills

Statistical Machine Learning: Grader

Fluid Labs, *St. Paul, MN* June 2018- September 2018

Lab Assistant

- Helped envision and enact a variable water flow rate test system. Implementation consisted of building the pipe fixtures, soldering and wiring the system, as well as the coding and PID tuning of the programmable logic controller.
- Quantified bias and noise in ultrasonic time of flight measurements to improve the accuracy of the flow rate model for the Fluid smart water meter.
- Developed firmware code to help the water meter accommodate the flow rate testing script. This included writing a packet decoder to interpret raw measurements from the Fluid water meter.

Medtronic Inc., *Irvine, CA* June 2017- August 2017

Neurovascular

Design Quality Engineer Summer Intern

- Lead remediation efforts for the core manufacturing validation documentation for the Solitaire™ Family line. Remediation efforts required a deep understanding of the manufacturing processes and product characteristics of Solitaire™, particularly the methodology behind each quality control step.
- Helped plan the Cognition Cockpit implementation of the Neurovascular Risk Management system by creating and adapting existing User Needs and System Requirements. Gave input on how to improve the existing risk management system.
- Created flowcharts and other reference materials to get myself better acquainted with the manufacturing and documentation architecture used at Irvine. These were retained for future use with new hires.

ACTIVITIES

Engineers Without Borders- UMN Chapter, *Minneapolis, MN* November 2014-December 2017

Member '14, '15, Vice President '16, Mentorship Coordinator '17

- Oversaw the work of the Publicity, Events and Freshman Leadership Board officers and the Online Webmaster. This included brainstorming and enacting new ways to recruit students and organizing events to engage current members.
- Represented officer interests in the Steering Committee that oversaw the budget of the student chapter