# JENNIFER SLOBODA

DATA SCIENCE / MACHINE LEARNING / SOFTWARE ENGINEER

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## SOFTWARE SKILLS

**Python** *pandas, scikit-learn, PyTorch, TensorFlow, TFLite, Keras, NLTK, Flask (beginner-level)*

**React JS** *Typescript, Material-UI*

MATLAB, C++, C, Scala, R

SQL, PostGIS, Elasticsearch, Neo4j, Spark

Adobe XD, Kibana, Tableau

## PUBLICATIONS

* jsloboda.github.io/publications

## EDUCATION

**B.S.E. Computer Engineering**
**University of Michigan**
Ann Arbor, MI / 2010-2014

- Advanced DSP & Applications
- DSP Design Lab
- Computer Vision
- Electrical Biophysics
- Philosophy of Cognition

**Non-degree Courses**

Linear Algebra, Machine Learning
Boston University / 2016, 2017

Big Data Analytics
Harvard / 2017

Computational Psycholinguistics
MIT / 2019

Principles of Programming Langs.
CU Boulder / 2020

**Selected Projects**

Real-time radar heartbeat monitor

Facial emotion recognition

Syntactic generalization of supervised LSTM language models via number prediction tasks

## WORK EXPERIENCE

*6+ years in interdisciplinary applied research; largely health & humanitarian tech.*

*Broad algorithm development experience spans time series analysis/prediction/ classification, object detection, image classification, speech analysis, physiological signal processing, high-level embedded deployment; often deep-learning-based.*

*Software dev for data preparation, exploratory analysis, scalable experimentation, visualization. Domain expert engagement. Report/briefing creation & presentation.*

*~1 year web development and design.*

**MIT Lincoln Laboratory** / **April 2015 - present** / **Lexington, MA**
*Associate Research Staff* / *2018 - present*

- Sensor network analysis for land surveillance (Elasticsearch, Kibana)
- Front-end web development & UI design of data dashboards for COVID-19 situational awareness and humanitarian aid supply chain logistics
- Application of uncertainty-aware deep learning to medical decision support *
- Research & development of LSTM models, plus supporting software, for wearable-sensor-based human motion prediction for exoskeleton control *
- Research, data wrangling, statistical analysis, & software development to inform US sub-national human trafficking prevalence estimation *
- Adapted neural net architecture search software for hematoma detection in cranial CT scans

*Assistant Research Staff* / *2015 - 2017*

- Design and development of a Python package to process flight data at scale to extract and analyze features predictive of pilot fatigue
- Investigation of vocal biomarkers predictive of cognitive load & fatigue *
- Adaptation and testing of prototype vehicle classification techniques
- SEIR model simulation, algorithm evaluation for biosurveillance applications

*Research Intern*

**INRIA** / **Summer 2013** / **Grenoble, France**

Investigated, implemented, and integrated a blood perfusion model into ASL fMRI data analysis software to improve joint signal component estimation *

**U of Michigan Medical School** / **Winter 2013** / **Ann Arbor, MI**

Developed EEG data visualization and analysis scripts: spectral power, channel coherence, cross-frequency coupling (MATLAB EEGLAB toolbox) *

**Scripps Oceanography** / **Summer 2012** / **La Jolla, CA**

**Oakland University** / **Summer 2011** / **Rochester Hills, MI**

Developed computationally efficient sleep stage ID from respiratory signals *