

Samruddhi Shreeram Kulkarni

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Looking for full-time opportunities starting June 2020

EDUCATION:

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| ● Georgia Institute of Technology, Atlanta, GA | 2018-2020 |
| MS Electrical & Computer Engineering | GPA: 3.23/4.0 |
| Courses: Digital Image Processing, Statistical Machine Learning, Ubiquitous Computing, Computer Vision | |
| ● College of Engineering Pune, India | 2014-2018 |
| Bachelors in Instrumentation and Control Engineering | GPA: 8.02/10 |
| Courses: Transducers, Control Systems, Microcontrollers, Digital Signal Processing | |

EXPERIENCE:

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- **Graduate Research Assistant, UbiComp Lab, Georgia Tech (Aug-Dec 2019)** **Advisor:** Prof. Gregory Abowd
 - ❑ Delivered algorithm for android feature computation (**Android Java**), data visualization, augmentation & data analysis for insights on meal patterns and well-being in college students using unobtrusive wrist-based passive sensing
 - ❑ Submitted this research paper to ACM Interactive, Mobile Wearable and Ubiquitous Technologies (**IMWUT**) 2020
 - **Image Processing Intern, Emory University (May-Aug 2019)** **Advisor:** Gari Clifford, DPhil
 - ❑ Designed a deep learning pipeline to transcribe digital blood pressure meters from cellphone camera images. The pipeline involved steps from image preprocessing, cleaning to estimation of numerical values using a CNN
 - ❑ Submitted research article on this work to the Frontiers in Artificial Intelligence special edition 2020
 - ❑ Expanded research to image aesthetic quality assessment as **Research Assistant** at the **Clifford Lab (Jan-May 2020)**
 - **Intern, TQIntelligence Inc (May- Aug 2019)**
 - ❑ Worked on data preprocessing of self-reported patient, therapist & caregiver well-being data & patient audio to find insights on well-being.
 - ❑ Involved in data analytics using triage, Docker(SQL), data collection & development of company website(HTML)

SKILLS:

Programming: Python, MATLAB, C++, SQL, Linux, HTML/CSS, Arduino, OpenCV, Scikit-learn, Plotly, TensorFlow, PyTorch

Management Skills: Agile, Waterfall

MOOCs: Machine Learning (Stanford University), Intro to Data Structures and Algorithms(Udacity)

PROJECTS:

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- **Sleep staging analysis from single-lead ECG using deep learning (Jan-May 2019)**
 - ❑ Completed preprocessing and feature engineering of single-lead electrocardiogram data from MIT-BIH Polysomnographic Database.
 - ❑ Developed a machine learning model to classify four sleep stages using convolutional neural network
 - **Gait Analysis using Digital Image Processing (Aug- Dec 2018)**
 - ❑ Developed algorithm to detect "**heel strike**" & "**foot off**" in the gait of a person walking on an isolated street using Georgia Tech Gait dataset video recordings (Python, Contour tracking)
 - ❑ Tested this algorithm on real-time video recordings to detect fall or detect emergencies like fainting.
 - **Automatic Arm Warming Glove(Aug- Dec 2018)**
 - ❑ Delivered an EMG-driven assistive arm sleeve useful for people working in cold efficiently for longer periods.
 - ❑ The sleeve measures physiological signals like temperature, shiver, etc. and heats the sleeve for better hand grip.
 - ❑ Created a prototype programmed via Arduino & powered it through a 5V power supply.
 - **Design of a wearable device for pulse oximetry (Aug 2017-May 2018)**
 - ❑ Developed prototype of an Arduino programmed, wrist-worn wearable medical device to measure blood oxygen saturation(SpO2) and heart rate (HR) in near-real-time on 5V power supply. [Accuracy[SpO2($\pm 1\%$), HR($\pm 4\%$)]
 - ❑ Readings displayed on watch LCD logged on a mobile app via Bluetooth with alarms set for emergencies.

PUBLICATION:

Samruddhi K, Sudhir A, 'Study of Intelligent Evacuation Systems of High-Rise Buildings in India-A Review', IEEE 2016 International Conference on Computing, Analytics, & Security Trends(CAST), 2016 Pg:190-194