europass Curriculum vitae

PERSONAL INFORMATION

Shreyasvi Natraj

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WORK EXPERIENCE

01/02/2019–30/04/2019

Research Intern

University of Geneva, Geneva (Switzerland)

- Implemented skeletal structure and pose estimation machine learning models on videos
- Implemented a simple LSTM RNN on scalar data and ResNet50 + LSTM RNN and VGG16 + LSTM RNN on a complex video dataset on Baobab cluster.
- Implemented Meshroom for 3D reconstruction of environments

High Performance Computing, Meshroom, Keras, Alphapose, OpenCV, FFMPEG, Pandas

04/06/2018–31/08/2018

Openlab Summer Student

CERN, Geneva (Switzerland)

- Developed an automated damage analysis program for stereo image pair and shuttle radar topography based digital elevation models and structure point data for Aleppo, Syria.
- Implemented mechanical turk web instance for refugee camp satellite image polygon data generation. (Talk)
- Implemented event tracker for social media data extraction based disaster data collection tool called E2MC

Pandas, AWS, GCP, CCL Tracker, Enki, HTML, CSS, JS, QG/S, Pybossa, HDBSCAN, KNN

31/08/2017–20/10/2017

Remote Research Intern

Human Computer Interaction Institute, Carnegie Mellon University, Bangalore (India)

Developed a CMOS sensorfilter to carry out UV imaging to determine oral health and implemented SIFT/SURF, RANSAC and rasl in order to align these oral images.

OpenCV, Pandas, Raspberry Pi, Arduino

03/07/2017–26/08/2017

Summer Student

Geneva Tsinghua Initiative, Geneva (Switzerland)

- Implemented multiple machine learning models for object detection with database linkages for accurate trash classification and sorting.
- Successfully launched Zooniverse campaign and a crowdAI challenge for AI generation using crowdsourcing and a portable low cost scanner for implementation of the AI thus obtained.
- Worked on making SPI for FPGA-RPi communication (cosmic pi). *GCP Microsoft Azure Services, Xilinx Vivado, VHDL, Raspberry Pi, Lattice ICE40HX8*

01/05/2016–30/06/2016

Research Intern

Graviky Labs (MIT Media Labs Offshoot), Bangalore (India)

Developed an electrostatic system for a device called Kaalink to convert PM2.5 into Air-Ink

Solidworks, Electro-Mechanical manufacturing/assembly, Dry Lab Skills

EDUCATION AND TRAINING

01/05/2015–30/05/2019

Bachelor of Engineering

R.V. College Of Engineering, Bangalore (India)

- **Course:** Biotechnology, **CGPA:** 8.55/10,
- Graduated First Class with Distinction, Awarded Best Outgoing Student Award, Class of 2019

09/09/2019–Present

Masters of Science

University of Geneva, Geneva (Switzerland)

Course: Neuroscience

PERSONAL SKILLS

Foreign language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages

ADDITIONAL INFORMATION

Projects

• **CERN (Remote Project) 2017:** Carried out simulations using Garfield++ to produce gas tables for Argon-Carbon Dioxide gas mixture and determine ionization, excitation rates, gain curves and find transfer probability and penning effect. (Github Repo)

• **LVPEI MITRA Engineering the Eye Workshop 2016:** Worked in a team of 6 in developing a project called BullsEye during an MIT Media Lab Workshop in LV Prasad Eye Institute

• **SRISTI-UNICEF Summer School 2017:** Developed a low-cost toxic gas detector for prevention of casualties of salt farmers due to toxic gas leakages in Rann Of Kutch region in Gujarat.

• **Stanford Scholar Initiative:** Developed research talks on several renowned research papers for the Stanford Scholars initiative program.

• **Abbie (AR/VR Sensor Based roBot for Intuitive Exploration):** Used Google project tango based area learning and raspberry pi to build an autonomous small scale vehicle. *(Provisional Patent Filed, Ref. No. E-2/1224/2017-CHE Application No: 201741015905)*

• **Casie (Context Acquired detail Sensing in Indoor/outdoor Environment):** Implemented a pseudo-deep-leaming model to compare results from multiple machine learning models for emotion analysis using voice and image. *(Provisional Patent Filed, Ref. No. E-2/1226/2017-CHE, Application No: 201741015907)*

• **Pam (Purification Actuating Module):** Prototyped a floatation device for stagnant water purification using vacuum pump suction, porous membrane filtering as well as self-balancing using custom made gyroscope, *(Provisional Patent Filed, Ref. No, E-2/1227/2017-CHE, Application No:201741015908)*

• **Low cost miniaturized bacteriological culture incubator:** Used microcontroller regulated Peltier heating as well as a thermocol box for making the a low cost incubator.

• **Insect Tracking:** Used Lime software defined radio (SDR) in order to track insects and their behaviour.

Skillset

- **Softwares:** Xilinx Vivado, Lattice IceCube, PothosFlow, SolidWorks, QGIS, LabVIEW, Android Studio
- **Programming & Electronics:** Python, C++, Microcontrollers, ARM Processors, Lattice FPGAs, Software Defined Radios

Honours and awards

SRISTI UNICEF 2015 Award Winner, National Entrepreneurship Challenge 2015/16 Winner, MIT Media Lab-LVPEI Certificate Of Team Excellence, Microsoft Imagine Cup Top 10 Pitches, Future Ideas 2015 worldwide competition finalist, KPIT Sparkle 2017 Finalist, Shell Ideas 360 2015/16 Stage 2 Qualifiers, Airbus Fly Your Ideas Round 2 Qualifiers 2015