NIKHIL **VERMA**

SENIOR BIOMEDICAL UNDERGRADUATE

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Fields of Interest

Human-Computer Interaction, Artificial Intelligence, Deep Learning, Signal Processing, Augmented Reality.

Education

National Institute of Technology, Raipur
Biomedical Engineering

BACHELORS IN TECHNOLOGY (B. TECH) *CPI: 8.93/10.0*

Department Rank 3

Experience

Massachusetts Institute of Technology (MIT Media Lab)
Boston,MA

VISITING SUMMER RESEARCH STUDENT | KHORANA SCHOLAR *May 2018 - July 2018*

Collaborated with a neuroscientist on the project Dormio. Worked on Signal Processing, Data Analysis, and Machine Learning.

Siemens Healthineers
Indore,India

BIOMEDICAL ENGINEERING INTERN *December 2017 - January 2018*

Resolved technical issues for various medical devices like CT-16 slices, 1.5T MRI, dual display and 3-D C-Arm.

All India Institute of Medical Sciences
Raipur,India

RESEARCH INTERN *May 2017 - July 2017*

Collaborated with the neurophysiologist to work on a technique to augment sleep- Engineering Sleep. Primarily worked on Sleep Stage detec-tion using EEG and Signal Processing.

Projects

Tadashi- Your Personal Healthcare Companion
Banglore, India

MENTOR: HARIKRISHNA RAI, GE HEALTHCARE *December 2018 - Present*

Tadashi identifies and monitors the food intake of the user and gives a feedback on his food lifestyle which includes immediate and weekly feedback which help in decision making, self-realization and provides the user with an additional motivation to continue with a healthy lifestyle.

Sparsh- Restoring Tactile Sensation in Upper Limb Amputees
Raipur, India

ADVISOR: PROF. BIKESH KUMAR SINGH(BACHELOR THESIS PROJECT-1) *August 2018 - December 2018*

This project creates an opportunity for upper limb amputees to obtain a sensory feedback by stimulating the peripheral nerves in their residual limb giving them the sensation of touch in different fingers and completing the loop in human-machine interfaces.

Botanical Touch- Plant-Human Interface
Raipur,India

ADVISOR: PROF. BIKESH KUMAR SINGH *August 2018 – December 2018*

This system allows developing a deeper connection between human and nature by enabling the user to be able to feel tactile sensation by peripheral nerve stimulation when the plant is being touched.

Dormio- Interfacing with Dreams to Augment Human Creativity
Boston,MA

ADVISOR: PROF. PATTIE MAES, FLUID INTERFACES GROUP *May 2018 - July 2018*

This system allows for access to semi-lucid sleep states that can successfully influence, extract information from, and leverage cognition hap-pening during the early stages of sleep in order to augment human creativity.

BrainSense- Mind Controlled Robot
Raipur,India

ADVISOR: PROF. R. PERIYASAMY *August 2017 - October 2017*

This project acts as an inception for developing a vehicle, or wheelchair allowing patients with motor disability to control it using their minds through Brain-Computer Interfaces.

Engineering Sleep-Sleep Monitoring and Manipulation Setup
Raipur,India

ADVISOR: DR. MEENAKSHI SINHA *May 2017 - June 2017*

The vision was to establish a system for measuring cerebral activity to recognize deep sleep by detection of delta waves and stimulate synchro-nized auditory signals to enhance the quality of sleep and improve memory.

Small Mouth- Autonomous Bio-Mimetic Marine Drone
Raipur,India

ADVISOR: PROF. ARINDHAM BIT *August 2016 - October 2016*

This model provides an engineering tool for practical applications in marine and military fields, such as monitoring the environment, harvesting natural resources, undersea operation, etc.

Achievements and Awards

- Selected among top 40 students from India for the prestigious Khorana Fellowship 2018.
- Selected amongst top 20 teams from India in GE Healthcare Precision Challenge 2018
- Winners in Vigyaan, The National Science Exhibition-2017 for presenting Brain Sense.
- Runners up in IEEE Skill and Knowledge Enhancement Programme-2016 for presenting Small Mouth.
- Runners up in Vigyaan, The National Science Exhibition-2016 for presenting Small Mouth.
- Won Bronze medal in State level Roller Hockey competition.

Skills

Software	Python, C, C++, Matlab, LabView, LaTeX, Unity, Sketchup.
Hardware	Arduino, RasperryPi, Cura, SketchUp, Multisim
Libraries	Numpy, Pandas, Tensorflow, scipy, Keras.