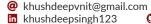
# KHUSHDEEP SINGH

# **Robotics and AI aspirant**



**J** +33 745551477 khushdeep-singh

▼ INRIA, Grenoble, France R<sup>6</sup> Khushdeep\_Singh\_Mann

**3** Khushdeep Singh



### **EXPERIENCE**

# Research Engineer

#### **INRIA**

Apr'21 - Present

Grenoble, France

• Al-based perception for Autonomous vehicles

#### Student Assistant

# Max Planck Institute for Intelligent Systems - Perceiving Systems

Nov'20 - Feb'21

▼ Tübingen, Germany

 My work involves development of outdoor navigating robot

# Master Thesis at BethgeLab

#### Al research Centre, University of Tübingen

**J**uly'20 - Jan'21

Tübingen, Germany

• Exploring and bechmarking the internal dynamics of continuous RL agents with the existing baseline algorithms and Self-Supervised Learning technique

## Research Assistant

#### Forschungszentrum Informatik (FZI)

Feb- May 2020

Berlin, Germany

• Worked on hardware testing for toy autonomous driving car. Carried out software simulation for object detection framework

# Research Engineer

## **Centre for Robolution**

Feb-May 2018

Hyderabad, India

• Designing swarm robots that can perform collaborative tasks

#### Research Internship

# **University of Plymouth**

May-July 2016

Plymouth, United Kingdom

• End effector design for mobile manipulator: CHAP V1, sustaining 2kg payload

#### **PATENT**

#### Hybrid Robot

# Visvesvaraya National Institute of Technology

**J**une 2017

Nagpur, India

## PERSONAL DETAILS

Date of Birth: 26/01/1994

 Nationality: Indian Marital Status: Single

# **EXECUTIVE SUMMARY**

"A self-driven enthusiast passionate about Artificial Intelligence"

#### **EDUCATION**

# M.Sc. in Autonomous Systems

#### Technische Universität Berlin

Cct'19 - Jan'21

Berlin, Germany

• Exit year of double degree program

Specialization: Applications of Autonomous systems

# M.Sc. in Autonomous Systems

# KTH Royal Institute of Technology

**Sept'18 - June'19** 

Stockholm, Sweden

Entry year of double degree program

Relevant courses: Robotics, Distributed AI, Deep Learning, Control systems

Master of Science (double degree with integrated mobility)

#### **EIT Digital Master School**

**Sept'18 - Jan'21** 

Brussels, Belgium

Major: Autonomous Systems

Minor: Innovation and Entrepreneurship

# B.Tech. in Electronics Engineering

# Visvesvaraya National Institute of Technology (VNIT)

**Sept'13 - May'17** 

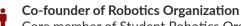
Nagpur, India

## **SERVICE**



#### **Academic**

Reviewer for IV 2022, IROS 2022.



Core member of Student Robotics Organization ( IvLabs) at VNIT along with other colleagues. The organization works actively in Robotics and AI

 Under review- Indian patent application number 201721020615

#### **PUBLICATIONS**

# IEEE Intelligent Vehicles Symposium (IV)

June'22

Aachen, Germany

 Predicting Future Occupancy Grids in Dynamic Environment with Spatio-Temporal Learning

# International Conference on Robotics and Automation (ICRA)

**M**ay'22

Philadelphia, United States

Fusing Event-based and RGB camera for Robust Object Detection in Adverse Conditions

# ICLR 2021 Workshop SSL-RL

**M**ay'21

Virtua

• Out-of-distribution generalization of internal models is correlated with reward

# **TAROS Conference**

**J**uly'2017

Guildford, United Kingdom

 An Open-Source Tele-Operated Mobile Manipulator: CHAP V1

## **IEEE ROBIO International Conference**

**Dec'2016** 

Qingdao, China

 Design Analysis and Development of Low Cost Under actuated Robotic Hand

#### **PROJECTS**

#### Autonomous warehousing system

# **DAI-Labor, TU Berlin**

Ct'19- Feb'20

Berlin, Germany

 Worked on simulation of Multi-agent robotic system for fetching and storing packages in industry environment. Developed the motion planning and obstacle detection nodes

# Acoustic Sensing for soft robotic fingers RBO Lab, TU Berlin

Ct'19- Feb'20

Berlin, Germany

 Acoustic sensing uses 'sound' technique to acquire information between soft robotic finger and the object in contact. Experimenting the sensitivity of this technique to the inflation pressure in soft robotic finger

# **P**

#### Meeting of National Innovation Club

Invited twice to President's House of India for presentation of Robotic hand and Hybrid robot



**Excellence Award** 

Innovative robotic projects at IvLabs, VNIT

# **SKILLS**

Robotics Software: Robot Operating System (ROS),

VREP, MORSE

Robotics Hardware: Drones, UAVs, Snake robots, Pros-

thetics, Manipulators, Biped

**Deep Learning**: PyTorch, Pandas, Numpy, OpenCV

Distributed AI: GAMA

Reinforcement Learning: MuJoCo, OpenAl Gym, PyBul-

let

Autonomous Driving: CARLA

Processors: Arduino, Atmel, ARM Cortex, Rasberry Pi

**CAD Design**: Solidworks, AutoCad **Machines**: CNC, 2D-3D Printing

Actuators: Servos, Brushless DC (BLDC), Dynamixels,

Herkules

**Programming:** C, C++, Python, Java, Embedded C, Jupyter **Productivity tools:** MS Office, LaTeX, GitHub, GitLab, VS Code

#### **LANGUAGES**

**English** 









Mr. Steffen Schneider

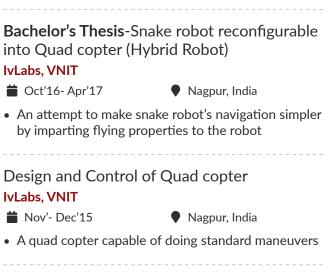
@ steffen.schneider.94@gmail.com

PhD candidate at University of Tübingen, IMPRS-IS Tübingen and ELLIS

#### Prof. Shital Chiddarwar

@ shitalsc@mec.vnit.ac.in

■ Associate Professor, M-0-9 FMS and Robotics Laboratory Department of Mechanical Engineering



# Development of five fingered robotic hand

#### IvLabs, VNIT

May'- Oct'15

Nagpur, India

• Low cost prosthetic hand suitable for sign language demonstrations and in-hand manipulation

# Design and control of Biped robot

# IvLabs, VNIT

Sept'- Nov'14

Nagpur, India

• A robot capable of walking with six degrees-of-freedom