

# Shivansh Patel

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## Education

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**Indian Institute of Technology Kanpur**

Aug. 2016 - July, 2020

BACHELOR OF TECHNOLOGY IN ELECTRICAL ENGINEERING (9.0/10.0)

## Research Interests

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COMPUTER VISION, REINFORCEMENT LEARNING, EMBODIED AI, AND ROBOTICS

## Publications

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**Interpretation of Emergent Communication in Heterogeneous Collaborative Embodied Agents**

SHIVANSH PATEL\*, SAIM WANI\*, UNNAT JAIN\*, ANGEL X. CHANG, MANOLIS SAVVA

Under review at tier-1 computer vision conference

**MultiON: Benchmarking Semantic Map Memory using Multi-Object Navigation**

PDF | Project

SAIM WANI\*, SHIVANSH PATEL\*, UNNAT JAIN\*, ANGEL X. CHANG, MANOLIS SAVVA

Neural Information Processing Systems (NeurIPS), 2020

**Robust Explanations for Visual Question Answering**

PDF | Code

BADRI N. PATRO, SHIVANSH PATEL, VINAY P. NAMBOODIRI

Winter Conference on Applications of Computer Vision (WACV), 2020

**U-CAM: Visual Explanation using Uncertainty based Class Activation Maps**

PDF | Project | Code

BADRI N. PATRO, MAYANK LUNAYACH, SHIVANSH PATEL, VINAY P. NAMBOODIRI

International Conference on Computer Vision (ICCV), 2019

**Granular Multimodal Attention Networks for Visual Dialog**

PDF

BADRI N. PATRO, SHIVANSH PATEL, VINAY P. NAMBOODIRI

ICCV workshop on Intelligent Short Video (ISV), 2019

## Internships

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**Multi-ON: Multi-Object Navigation**

Simon Fraser University

VISITING SCHOLAR, SUPERVISOR: MANOLIS SAVVA AND ANGEL XUAN CHANG

Jan 2020 - July 2020

- Proposed multiON task framework and benchmarked egocentrically-generated maps and oracle maps for navigation performance
- Demonstrated that a simple semantic map construction approach outperforms a more complex neural image feature map agent
- Publication: *Multi-ON: Benchmarking Semantic Map Memory using Multi-Object Navigation*

**Multi Language Scene Text Localization and Recognition**

Fresh Gravity

INTERN

May 2019 - July 2019

- Designed multi-language OCR using Convolutional Recurrent Neural Network (CRNN) that works for 22 different language scripts
- Generated synthetic Text-In-The-Wild for multiple languages to augment and increase training data

## Projects

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**Vision and Language Navigation via Way-Point Prediction**

Ongoing

SUPERVISOR: ANGEL XUAN CHANG

- Proposed to solve vision and language navigation by predicting language conditioned way-points
- Proposed two stage model where first stage predicts way-points and second stage takes action based on the predicted way-point

## Honors & Awards

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2020 Named finalist for Qualcomm Innovation Fellowship India 2020

2019 Recipient of Academic Excellence Award for exceptional academic performance

2016-20 Recipient of IIT Kanpur MCM scholarship for Meritorious Performance

## Position of Responsibility

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**Relations Wing, Outreach Cell**

IIT Kanpur

COORDINATOR

June 2018 - May 2019

- Organized renowned programs such as Tips from the Tops and Alumni Hangouts
- Initiated Buddy Program that aims to connect sophomore students with alumni
- Assisted the Institute to develop better relations with alumni
- Directed an online campaign of #ThatsIITK to guide prospective students