

# Harkirat Singh Behl

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EDUCATION	University of Oxford DPhil Advised by Prof. Philip H.S Torr and Prof. M. Pawan Kumar	Oxford, UK 2018 – present
	IIT Kanpur B.Tech	Kanpur, India 2018
HONORS & AWARDS	<ul style="list-style-type: none"><li>• Tencent PhD Scholarship DPhil Funding, 180,000 USD</li><li>• ACRV Travel Grant (twice) Robotic Vision Summer School, Australia</li><li>• AP Memorial Scholarship, IIT Kanpur Scholarship is awarded for highest GPA in department at end of 6<sup>th</sup> semester</li><li>• Visitor Scholarship, University of Oxford (twice) Full scholarship for research visit to department of Engineering Science, Oxford while being an undergrad</li><li>• Academic Excellence Award, IIT Kanpur, Dean's List</li><li>• Second-Best Sectional Award, Course Project for TA-201 Received the award for building a Mechanical Rolling Brigde</li><li>• JEE-MAINS, 99.83 percentile (amongst 1.4 million students)</li><li>• Scholars Trophy, R.A.N, Bilaspur, India Awarded for best academic performance for 4 consecutive years</li><li>• National Talent Search Examination, India Selection in National Round of NTSE-2008</li></ul>	2018-2021 2017, 2019 2017 2016, 2017 2015 2015 2013 2011 2008
PUBLICATIONS	<ol style="list-style-type: none"><li>8. Scaling the Convex Barrier with Sparse Dual Solvers Alessandro De Palma, <a href="#">Harkirat Singh Behl</a>, Rudy Bunel, Philip Torr, M. Pawan Kumar Under submission at JMLR 2021</li><li>7. Scaling the Convex Barrier with Active Sets <a href="#">Harkirat Singh Behl</a>*, Alessandro De Palma*, Rudy Bunel, Philip Torr, M. Pawan Kumar ICLR 2021</li><li>6. Progressive Skeletonization: Trimming more fat from a network at initialization Pau Jorge, Amartya Sanyal, <a href="#">Harkirat Singh Behl</a>, Philip Torr, Gregory Rogez, Puneet Dokania ICLR 2021</li><li>5. STEER: Simple Temporal Regularization for Neural ODEs Arnab Ghosh, <a href="#">Harkirat Singh Behl</a>, Philip Torr, Vinay Namboodiri NeurIPS 2020</li><li>4. AutoSimulate: (Quickly) Learning Synthetic Data Generation <a href="#">Harkirat Singh Behl</a>, Atilim Gunes Baydin, Ran Gal, Philip Torr, Vibhav Vineet ECCV 2020</li><li>3. Meta Learning Deep Visual Words for Fast Video Object Segmentation <a href="#">Harkirat Singh Behl</a>, Mohammad Najafi, Anurag Arnab, Philip Torr IROS 2020 <b>(Oral)</b> NeurIPS 2019 ML4AD Workshop <b>(Oral)</b></li><li>2. Alpha MAML: Adaptive Model-Agnostic Meta-Learning <a href="#">Harkirat Singh Behl</a>, Atilim Gunes Baydin, Philip Torr ICML 2019 AutoML Workshop</li><li>1. Incremental Tube Construction for Human Action Detection <a href="#">Harkirat Singh Behl</a>, Michael Sapienza, Gurkirt Singh, Suman Saha, Fabio Cuzolin, Philip Torr BMVC 2018</li></ol>	

WORK EXPERIENCE	Microsoft Research	Redmond, USA
	<i>Research Intern, Mentor: Dr. Vibhav Vineet</i>	Jun-Sep'19
	<ul style="list-style-type: none"> <li>Designed an optimization algorithm to learn synthetic data generation for neural network training. Paper published in ECCV.</li> </ul>	
	University of Oxford	Oxford, UK
	<i>Visiting Research Student, Mentor: Prof. Philip H.S. Torr</i>	Jun-Jul'17
	<ul style="list-style-type: none"> <li>Designed the first real-time algorithm for space-time human action detection during undergrad. Paper published in BMVC.</li> </ul>	
	Australian Institute for Machine Learning, University of Adelaide	Adelaide, Australia
	<i>Summer Intern, Mentor: Prof. Ian Reid</i>	Jun-Jul'16
	<ul style="list-style-type: none"> <li>Designed a probabilistic multi-target tracking system using bayesian filtering and data association.</li> </ul>	
	IIT Kanpur	Kanpur, India
	<i>Undergraduate Researcher, Mentor: Prof. Vinay Namboodiri</i>	May-Nov'15
	<ul style="list-style-type: none"> <li>Worked on kernelized support vector machines and online-learning, to develop an efficient algorithm for pedestrian tracking in crowded scenes to study crowd movement.</li> </ul>	
TEACHING EXPERIENCE	<ul style="list-style-type: none"> <li>Tutor, Information Engineering Systems (Estimation, Inference, Image Processing, Signal Analysis), Oxford</li> </ul>	2020-21
	<ul style="list-style-type: none"> <li>Lab Demonstrator, Engineering Computation (Optimization Methods for Linear Regression), Oxford</li> </ul>	2019-20
	<ul style="list-style-type: none"> <li>Lab Demonstrator, Image and Signal Analysis, Oxford</li> </ul>	2019-20
	<ul style="list-style-type: none"> <li>Senior Academic Mentor, C Programming, Numerical Computation Methods, Statistical Thermodynamics, IIT Kanpur</li> </ul>	2014-16
TALKS	<ul style="list-style-type: none"> <li>Microsoft Research Redmond</li> </ul>	2021
	<ul style="list-style-type: none"> <li>Robust and Reliable Computer Vision</li> </ul>	
	<ul style="list-style-type: none"> <li>NeurIPS 2019, Machine Learning for Autonomous Driving Workshop</li> </ul>	2019
	<ul style="list-style-type: none"> <li>Meta Learning Deep Visual Words for Fast Video Object Segmentation</li> </ul>	
	<ul style="list-style-type: none"> <li>Robotic Vision Summer School, Australia</li> </ul>	2019
	<ul style="list-style-type: none"> <li>Meta Learning for Scene Understanding</li> </ul>	
POSITIONS OF RESPONSIBILITY	<ul style="list-style-type: none"> <li>Reviewer, NeurIPS, ICCV, ICLR, IJCV, T-PAMI</li> </ul>	
	<ul style="list-style-type: none"> <li>Junior Advisor, St Cross College, Oxford</li> </ul>	2019-21
	<ul style="list-style-type: none"> <li>Family and Communities Representative, St Cross College, Oxford</li> </ul>	2019-20
	<ul style="list-style-type: none"> <li>Secretary, University of Oxford Sikh Society, Oxford</li> </ul>	2019-20
	<ul style="list-style-type: none"> <li>Academic core team member, Counselling Service, IIT Kanpur</li> </ul>	2015-16
	<ul style="list-style-type: none"> <li>Member, AUV team (Autonomous Underwater Vehicle), IIT Kanpur</li> </ul>	2015-16
	<ul style="list-style-type: none"> <li>Mentor, Robotics Club, IIT Kanpur</li> </ul>	2015-16
	<ul style="list-style-type: none"> <li>Senior Executive Finance, Techkriti'15, IIT Kanpur</li> </ul>	2014-15
	<ul style="list-style-type: none"> <li>Student Guide, Counselling Service, IIT Kanpur</li> </ul>	2014-15
SPORTS	<ul style="list-style-type: none"> <li>Captain, Wolfson and St Cross College Cricket team, Oxford</li> </ul>	2019-21
	<ul style="list-style-type: none"> <li>Member, OUCCC team (Oxford University Club Cricket Club), Oxford</li> </ul>	2018-21
	<ul style="list-style-type: none"> <li>Member of runner-up team, Intramural Basketball championship IIT Kanpur</li> </ul>	2014