



Onkar KRISHNA

PERSONAL DATA

PLACE AND DATE OF BIRTH: Gorakhpur, India | 28 November 1988
ADDRESS: Kanagwa, Isehara-shi, Higashi-Naruse, 42-1, 125, Japan
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EDUCATION

- MARCH 2018 Ph.D., **The University of Tokyo**, Japan
Major: Information and Communication Engineering
Thesis: "Gaze Analysis and Visual Saliency Prediction Across Different Age Groups"
Adviser: Prof. Kiyoharu AIZAWA
- MARCH 2014 Ph.D. (Discontinued), **India Institute Technology**, Jodhpur, India
Major: Information and Communication Technology
Research Topic: "Contemporary video compression standards: H.265/HEVC, VP9"
Adviser: Prof. Tiwari ANIL
- JULY 2012 Master of Technology, **India Institute of Information Technology**, Jabalpur, India
Major: Computer Science and Engineering
Thesis: "Noise Induced Noisy Image Segmentation and Audio Water Marking"
Adviser: Dr. Jha RAJIB
- JULY 2009 Bachelor of Technology, **CET-IILM (UPTU)**, Greater Noida, India
Major: Computer Science and Engineering

AWARD AND SCHOLARSHIPS

- JAN 2017 **Electronic Imaging Travel Grant**, Received a grant to attend EI student showcase. A Jury selected 17 best papers from applicants and awarded the grants accordingly.
- JAN 2016 **Takuetsu-daigakuin**, Graduate school of Information Science and Technology, The University of Tokyo, Japan (for a month).
- APRIL 2014 **MONBUKAGAKUSHO**, Ministry of Education, Culture, Sports, Science, and Technology (MEXT), Japan (for 4 years).
- JULY 2012 **MHRD**, Ministry of Human Resource Development, Government of India (for 2 years).
- DEC 2011 **JENESYS programme**, Industrial visit was fully supported- by Japan Government (for 2 months).
- JUNE 2010 **MHRD**, Ministry of Human Resource Development, Government of India (for 2 years).

RESEARCH EXPERIENCE

Current APRIL 2018	Research Associate at NTT Communication Science Laboratory <i>NTT Corporation, Japan.</i> Adaptive Spotting: Working on a project to develop a search mechanism for 3D-environment based on deep-reinforcement learning with application in robotics and drone-based surveillance
JUNE 2017 SEPTEMBER 2017	Research intern at NTT Communication Science Laboratory <i>NTT Corporation, Japan.</i>
JUNE 2017	Collaborative Research at K. NAKANO LABORATORY, IIS <i>The University of Tokyo, Japan.</i> Worked on a project titled as "Age-related differences in gaze landings of adult and elderly drivers".
MARCH 2017	Visiting Student at DEPT. OF BRAIN AND COGNITIVE SCIENCES <i>Massachusetts Institute of Technology, Cambridge, MA.</i> I have gained valuable insight into the perceptual aspect of the computational modeling while working with visual statistics group.
FEBRUARY 2016	Visiting Researcher at LABORATOIRE PSYCHOLOGIE DE LA PERCEPTION <i>Paris Descartes University, CNRS, Paris, France.</i>
MARCH 2014	Researcher Student at AIZAWA-YAMASAKI LABORATORY <i>The University of Tokyo, Japan.</i> I worked on optimization of video compression standard H.265.
NOVEMBER 2013	Teaching Assistant at INDIAN INSTITUTE OF TECHNOLOGY <i>Indian Institute of Technology Jodhpur, India</i> I worked as teaching assistant for subjects; multimedia compression and pattern recognition
NOVEMBER 2011	Researcher Internship at YOKOHAMA RESEARCH LAB <i>Hitachi Ltd., Yokohama, Japan</i>

RESEARCH INTEREST

COMPUTER VISION	Image, video and point cloud processing more specifically reward based learning for different applications such as searching in a 3D real world by using hierarchical reinforcement learning.
ATTENTION	Interested in psychological aspect of human visual system in order to make human like search/scene viewing behavior.

PUBLICATIONS

Journals

- FEB 2018 Krishna Onkar, Andrea Helo, Pia Rama, and Kiyoharu Aizawa, *Gaze Distribution Analysis and Saliency Prediction Across Age Groups*, PloS one, 2018.
- NOV 2018 Krishna Onkar, Kiyoharu Aizawa, and Go Irie, *Computational Attention System for Children, Adults and Elderly*, Transaction on Applied Perception (ACM TAP), 2018 (Under review).
- JUNE 2019 Krishna Onkar, Go Irie, Xiaomeng Wu, Takahito Kawanishi, and Kunio Kashino, *Deep Reinforcement Template Matching*, IEEE Access, 2019 (Under review).

Conferences

- SEP 2019 Krishna Onkar, Go Irie, Takahito Kawanishi, Kunio Kashino, and Kiyoharu Aizawa, *Translating Adult'S Focus of Attention To Elderly's*, IEEE International Conference on Image Processing (ICIP), 2019 (Submitted).
- MAY 2019 Krishna Onkar, Go Irie, Xiaomeng Wu, Takahito Kawanishi, and Kunio Kashino, *Learning Search Path for Region-Level Image Matching*, IEEE-Acoustics, Speech and Signal Processing (ICASSP), 2019.
- OCT 2018 Krishna Onkar, and Kiyoharu Aizawa, *Billboard Saliency Detection in Street Videos for Adults and Elderly*, IEEE International Conference on Image Processing (ICIP), 2018.
- MAY 2018 Krishna Onkar, Kiyoharu Aizawa, and Saskia Reimerth, *Signboard Saliency Detection in Street Videos*, Acoustics, Speech and Signal Processing (ICASSP), 2018.
- OCT 2017 Saemi Choi, Krishna Onkar, Wen-Yu Lee and Kiyoharu Aizawa, *MatPlanner: Plan Your Days in Conferences by Resolving Conflicting Events*, Proceedings of the ACM Multimedia Conference, 2017 (Accepted for Demo).
- SEPT 2017 Krishna Onkar, and Kiyoharu Aizawa, *Age-adapted saliency model with depth bias*, Proceedings of the ACM Symposium on Applied Perception. ACM, 2017 (Accepted as oral).
- DEC 2016 Krishna Onkar, Toshihiko Yamasaki, Andrea Helo, Pia Rama, and Kiyoharu Aizawa, *Developmental changes in ambient and focal visual processing strategies*, IS&T/SPIE Electronic Imaging 2017, San Francisco, CA. (Accepted as oral)
- FEB 2013 Krishna Onkar, Rajib K. Jha, Anil K. Tiwari, Badal Soni, *Noise induced segmentation of noisy color image*, In Communications (NCC), IEEE, 2013.
- AUG 2012 Rajib K. Jha, Krishna Onkar, and Kiyoharu Aizawa *Dynamic stochastic resonance-based watermark extraction from audio signals in SVD domain*, Signal Processing Conference (EUSIPCO), 2012 Proceedings of the 20th European, IEEE, 2012.
- JUNE 2012 Krishna Onkar, Rajib K. Jha, and P. K. Biswas, *Dynamic stochastic resonance-based improved watermark extraction in DWT-SVD domain*, International Conference on Intelligent and Advanced Systems (ICIAS), IEEE, 2012.
- FEB 2012 Krishna Onkar, Rajib K. Jha, P. K. Biswas, and M. M. Mushrif *Dynamic stochastic resonance-based improved watermark extraction from audio signal*, In Communications (NCC), IEEE, 2012

Patents

- MAY 2019 Krishna Onkar, Go Irie, Xiaomeng Wu, Takahito Kawanishi, and Kunio Kashino, *SEARCH APPARATUS, TRAINING APPARATUS, SEARCH METHOD, TRAINING METHOD, AND PROGRAM*, US Patent, 2019. (*Filed patent*)
- DEC 2019 Krishna Onkar, Go Irie, Takahito Kawanishi, Kunio Kashino, and Kiyoharu Aizawa, *IMAGE SALIENCY METHOD OPPERATUS AND PROGRAM*, US Patent, 2019. (*Filed patent*).

COLLABORATIONS AND TALKS

- NTT-UTokyo* | Member of NTT-University of Tokyo research collaboration.
- UTokyo-CNRS* | Member of research collaboration between Laboratoire Psychologie de la Perception and Aizawa-Yamsaki Laboratory.
- Member* | Organizing Committee Member of The National Conference on Computer Vision, Pattern Recognition, Image Processing 2013, India.
- Talk at MIT* | Gave talk on Computational Aspect of Visual perception at Dept. of Brain and Cognitive Sciences, MIT, Cambridge, MA on Feb 2017.
- Talk at CNRS* | Gave talk on Age-adapted Saliency Modeling at Laboratoire Psychologie de la Perception, CNRS, Paris on Feb 2016.
- Talk at UC Berkely* | Gave talk at Berkeley Artificial Intelligence Research Lab on March 2018.

EXTRA-CURRICULAR ACTIVITIES

- VICE PRESIDENT The University of Tokyo Indian Student Association (UTISA).
- SENATOR Senator of student counsel of India Institute of Information Technology, Jabalpur, India
- SPORTS Second Runner-up of the half marathon in inter-IIIT sports, India

REFERENCES AVAILABLE TO CONTACT

- PROF. KIYOHARU AIZAWA Ph.D. Adviser, Dept. of Information and Communication Engineering
The University of Tokyo, Japan
EMAIL: aizawa@hal.t.u-tokyo.ac.jp
PHONE:3-5841-6761
- DR. RAJIB KUMAR JHA Master's Adviser, Department of Electrical Engineering
Indian Institute of Technology, Patna, India
EMAIL: jharajib@iitp.ac.in
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