Ashima Keshava
Research Scientist

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github.com/ashimakeshava

Strengths

Python, R, and Matlab

Eye-tracking, EEG, body kinematics, Virtual Reality

Advanced EEG & Eye-Tracking signal processing

Data Analysis and Visualization

Advanced statistical modeling using Generalized Linear Mixed Models

Machine learning methods

Research

Neurobiopsychology Lab / Doctoral Candidate
May 2017-PRESENT, INSTITUTE OF COGNITIVE SCIENCE
May 2019-PRESENT, COMPUTATIONAL COGNITION RESEARCH TRAINING GROUP

Neurobiopsychology Lab / Research Assistant
2014 -2016, INSTITUTE OF COGNITIVE SCIENCE

Infosys Ltd. Department of Education & Research / Systems Engineer
SEPTEMBER 2011 - SEPTEMBER 2013, MYSORE, INDIA

Defense Research & Development Organisation / Trainee
JANUARY 2011 - JUNE 2011, NEW DELHI, INDIA

Teaching

Real-world Neuroscience and Beyond
WINTER SEMESTER 2021-22
Topics: Computational ethology, ecological validity, real-world neuro-imaging

Deep Learning & Cognitive Neuroscience
WINTER SEMESTER 2020-21
Topics: Encoding-Decoding models of human visual cortex

Action & Cognition: Computational Cognition
SUMMER SEMESTER 2021, 2020, 2019
Topics: Data Science for human neuroimaging and behavioral data

Education

Institute of Cognitive Science / Doctoral Candidate
MAY 2017 - PRESENT, OSNABRÜCK, GERMANY

Study emphasis on modeling action-oriented visual perception in naturalistic environments.

Topics: Intention Recognition, Active Vision, Human-Machine Interaction, Embodied Cognition, Real-World Neuroscience

Methods: Eye-Tracking in VR, EEG, Statistical modeling

Institute of Cognitive Science / MSc Cognitive Science
OCTOBER 2013 - DECEMBER 2016, OSNABRÜCK, GERMANY

Study emphasis on Cognitive Neuroscience and Cognitive Psychology

Master's Thesis: Classification of attentive and inattentive states based on scalp EEG signal using SVMs

Manipal Institute of Technology / BE Electronics & Communication
AUGUST 2007 - JULY 2011, MANIPAL, INDIA

Study emphasis on Engineering Mathematics, Signal Processing

Selected Publications

Keshava, A., Nezami, F. N., Neumann, H., Izdebski, K., Schüler, T., & König, P. (2022). Low-level Action Schemas Support Gaze Guidance Behavior for Action Planning and Execution in Novel Tasks. (In review) Preprint at bioRxiv

Keshava, A., Gottschewsky, N., Balle, S., Nezami, F. N., Schüler, T., & König, P. (2021). Action Affordance Affects Proximal And Distal Goal-Oriented Planning. (In review) Preprint at bioRxiv

Nezami, F. N., Wächter, M. **A., Keshava,** A., Czeszumski, A., Lukanov, H., De Palol, M. V., Pipa, G., & König, P. (2021). Talking cars, doubtful users - a population study in virtual reality. Preprint at bioRxiv

Czeszumski, A., Gert, A. L., **Keshava, A.,** Ghadirzadeh, A., Kalthoff, T., Ehinger, B. V., Tiessen, M., Björkman, M., Kragic, D., & König, P. (2021). Coordinating With a Robot Partner Affects Neural Processing Related to Action Monitoring. *Frontiers in Neurorobotics*, *15*, 102.

Keshava, A., Aumeistere, A., Izdebski, K., & Konig, P. (2020). Decoding Task From Oculomotor Behavior In Virtual Reality. *ACM Symposium on Eye Tracking Research and Applications*.

König, S. U., **Keshava, A.,** Clay, V., Ritterhofer, K., & Kuske, N., König, P.(2020). Embodied Spatial Knowledge Acquisition in Immersive Virtual Reality: Comparison to Map Exploration. *Frontiers in Virtual Reality, 4.*

Grants/Funding

SmartFi: Smart Fidelity interaction system to increase the realism of performing manual tasks in virtual reality. funded by the European Funds for Regional Development, Lower Saxony, Germany
OCTOBER 2021 - PRESENT

ErgoVR: Development of an ergonomics analysis tool in virtual reality for the planning of workplaces in industrial manufacturing, funded by the German Federal Ministry of Education and Research
SEPTEMBER 2018 - AUGUST 2020

VRFlow Suite: Embodied Engineering in der Produktionstechnik, funded by European Funds for Regional Development, Lower Saxony, Germany
MAY 2017 - JULY 2018

Extras

Equal Opportunity Representative, Computational Cognition Research Training Group
APRIL 2019 - PRESENT

Lab Admin, NeuroBioPsychology Lab
JANUARY 2018 - PRESENT