Pankaj K. Gupta

Department of Cognitive, Linguistic & Psychological Sciences,
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EDUCATION

M.Sc. Interactive Entertainment Technology (Computer Science) *2011 - 2012*
School of Computer Science & Statistics, Trinity College Dublin, Dublin, Ireland
Dissertation: Estimating a Person's Object of Interest Using Depth Sensors
Relevant modules: Augmented Reality; Vision Systems; Artificial Intelligence; Numerical Methods and Advanced Mathematical Modeling; Autonomous Agents; Real-time Animation; Real-time Rendering; Real-time Physics; Software Engineering for Distributed Systems

B.E. Computer Engineering *2004 - 2008*
Army Institute of Technology, University of Pune, Pune, India
Relevant modules: Engineering Mathematics, Data Structures and Algorithms, Theory of Computation, Computer Architecture, Computer Networks, Compiler Design, Distributed Computing, Operating Systems, Software Engineering etc.

Continuing Education *March 2015*
Machine Learning from *Stanford University* by *Andrew Ng*(via coursera.org)

WORK EXPERIENCE

Research Assistant, *Oct. 2015 - Present*
Dept. of Cognitive, Linguistic and Psychological Sciences, Brown University, Providence, RI, USA
- Peculiarity in visual attention of children with autism spectrum

Research Engineer, *Dec. 2012 - Jul. 2015*
Dept. of Dynamic Brain Imaging, ATR International, Kyoto, Japan
- Decoding physical actions using Near-infrared spectroscopy signals from brain
- Near-infrared spectroscopy artifact correction/removal
- Automated wheelchair operation using 8-channel EEG headset
- Long-term recording of ambient sensors in a Brain-controlled house
- Human activity recognition using depth sensor (Kinect by Microsoft)

Intern (M.Sc. Thesis), *May 2012 - July 2012*
Dept. of Dynamic Brain Imaging, ATR International, Kyoto, Japan
- Estimating a person's object of interest using depth sensors

Student (M.Sc. Interactive Entertainment Technologies), *Sep. 2011 - May 2012*
School of Computer Science & Statistics, Trinity College Dublin, Ireland
- Brain Machine Interface to operate Television, Air-Conditioner, Electric lights and Curtains in a realistic house
- Detecting daily life activities (eight activities) of a person using Blood Oxygen Level-Dependent data from its brain
- Head pose estimation of a person using a consumer depth sensor
- Detecting lane-markings and road signs to assist car driver
- Car parking surveillance(moving object detection against a non-static background)
- Car license plate recognition and classification (Recognize and Classify the numbers)
- Industrial bottle packaging inspection (Check straight label and bottle cap)

Sr. Software Developer, *Dec. 2008 - Aug. 2011*
Propalms Network Pvt. Ltd., Pune, India
- Propalms Virtual Desktop Infrastructure
- End-point-security scanning in Propalms-VPN
- ProGate - remote desktop connection broker agent
- Cyberoam IPSec based VPN client.

- DimensionU Online site for educational gaming

Associate Software Developer, *Aug. 2008 - Dec. 2008*
GlobalLogic, Noida, India
- Compliance and risk management system

PUBLICATIONS

Ogawa T, **Gupta KP**, Yano K, Abdur-Rahim JA, Morioka H, Hirayama J, Yamaguchi S, Ishikawa A, Inoue Y, Kawanabe M, Ishii S. "**Decoding daily behaviors from NIRS signatures by using a portable NIRS device in the daily-life environment**" *Society for Neuroscience 2014*, Washington DC, USA, November 2014

Ogawa T, **Gupta KP**, Yano K, Abdur-Rahim JA, Morioka H, Hirayama J, Yamaguchi S, Ishikawa A, Inoue Y, Kawanabe M, Ishii S. "**Decoding daily-life behavioral signatures in the real environment: portable NIRS signal using behavior labels**" *37th Annual Meeting of the Japan Neuroscience Society*, Yokohama, Japan, September 2014

Takeshi Ogawa, Jun-ichiro Hirayama, **Pankaj Gupta**, Hiroki Moriya, Shumpei Yamaguchi, Akihiro Ishikawa, Yoshihiro Inoue, Motoaki Kawanabe, Shin Ishii. "**A daily-living assistive system with NIRS-BMI integrated a wearable NIRS device and a smart house**" Submitted *In proceedings of 37TH ANNUAL INTERNATIONAL CONFERENCE OF THE IEEE Engineering in Medicine and Biology Society*, MiCo - Milano Conference Center - Milan, Italy, August 25-29 2015

SKILLSET

Concepts: Signal processing; Supervised and Unsupervised Machine Learning; Statistics; Linear Algebra; Computer Vision; Augmented Reality; Computer Network Programming;

Programming: Matlab; C; C++; C#; Python

Development environment: Matlab; VisualStudios; CodeBlocks; CMake; Weka; OpenCV; OpenGL

VOLUNTEERING/OTHER WORKS

- Co-Founder at *VyomVista.in*, Gwalior, India - startup working on multicopter aerial vehicles.
- Added support for non-Admin users of OpenVPN client on Windows platform
- Winner at SAMSUNG BADA codeathon 2011 at *Trinity College Dublin*, Dublin, Ireland
- Hiking & cleaning drives of natural places with *Kansai International Outdoor Club*, Osaka, Japan
- Note-taker at Student Disability Services, *Trinity College Dublin*, Dublin, Ireland

REFERENCES

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