

PANKAJ K. GUPTA

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EDUCATION

Graduate Program in Neuroscience(PhD.) UBC, Vancouver, Canada.	2018 - Ongoing
M.Sc. Interactive Entertainment Technology(CS) (GPA: 3.2) Trinity College Dublin, Ireland	2011 - 2012
B.E. Computer Engineering (GPA: 3.1) Army Institute of Technology, University of Pune, Pune, India	2004 - 2008

SUMMER SCHOOLS

Summer Workshop on the Dynamic Brain (Allen Institute; U. Wash., USA)	Aug 2021
(TA)Neuromatch Academy 2020, 2021 (held online, world-wide)	Aug. 2020, July 2021
CNEURO 2020: Theoretical and Computational Neuroscience (Tsinghua University, China)	Aug 2020
(TA)Frontiers in Neurophotonics Summer School (Université Laval, Canada)	Aug 2020
Methods in Neuroscience at Dartmouth (Dartmouth College, USA)	Jul - Aug 2018
Translational Neuroscience and Neural Engineering (Brown Uni. & EPFL)	June 2018
Computational Approaches to Memory and Plasticity (NCBS, Bangaluru, India)	Jul - Aug 2017

PUBLICATIONS

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- Bolaños, L. A., Xiao, D., Ford, N. L., LeDue, J. M., Gupta, P. K., Doebeli, C., Hu, H., Rhodin, H., Murphy, T. H. (2021). **“A three-dimensional virtual mouse generates synthetic training data for behavioral analysis”** *Nature Methods*, 18(4), 378–381. <https://doi.org/10.1038/s41592-021-01103-9>
- Gupta, P., Murphy, T. (2021) **“Real-time neural feedback of mesoscale cortical GCAMP6 signals for training mice”** *Computational and Systems Neuroscience (Cosyne) 2021*, 2-118
- Hart et. al. (2021) **“Neuromatch Academy: a 3-week, online summer school in computational neuroscience”** *Journal of Open Source Education*
- Amso, D., Govindarajan, L.N., Gupta, P., Baumgartner, H., Lynn, A., Gunther, K., Placido, D., Sharma, T., Veerabadran, V., Thakkar, K., Kim, S. Serre, T. (2021) **“Using Computational Analysis of Behavior To Discover Developmental Change In Memory-Guided Attention Mechanisms In Childhood”**
- Freier, L., Gupta, P., Badre, D., Amso, D. (2020) **“The value of choice in 3- to 7-year-olds’ use of working memory gating strategies in a naturalistic task”** *Developmental Science (DS-05-19-0224-P)*
- Forys, B. J., Xiao, D., Gupta, P., Murphy, T. H. (2020). **“Real-time selective markerless tracking of forepaws of head fixed mice using deep neural networks”** *Eneuro, ENEURO.0096-20.2020*
- Gupta, P.K., and Murphy, T.H. (2019). **“Cortex-wide Computations in Complex Decision Making in Mice”** *Neuron* 104, 631–633
- Drew Linsley, Sven Eberhardt, Tarun Sharma, Pankaj Gupta, Thomas Serre **“What are the visual features underlying human versus machine vision?”** *Proceedings of the IEEE CVPR 2017*, 2706-2714
- Abdur-Rahim, J., Morales, Y., Gupta, P., Umata, I., Watanabe, A., Even, J., ... Ishii, S. (2016). **“Multi-sensor based state prediction for personal mobility vehicles”** *PLoS ONE*, 11(10)
- Ogawa, T., Hirayama, J. I., Gupta, P., Moriya, H., Yamaguchi, S., Ishikawa, A., ... Ishii, S. (2015). **“Brain-machine interfaces for assistive smart homes: A feasibility study with wearable near-infrared spectroscopy”** *Proc. of the IEEE EMBS*, 1107-1110
- 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 Japan Neuroscience Society*, Yokohama, Japan, September 2014

EXPERIENCE

Graduate Student Neurodata Tutor- <i>UBC Dynamic Brain Circuits cluster</i>	<i>Mar. 2020 - current</i>
Teaching Assistant- <i>Summer Workshop on the Dynamic Brain (2022), Friday Harbor, USA</i>	<i>Aug. 2022 - Sep. 2022</i>
Lead Teaching Assistant- <i>UBC Neuroscience NRSC-501(2021W) course</i>	<i>Dec. 2020 - May 2021</i>
Teaching Assistant- <i>NeuroMatchAcademy (2020, 2021) Summer School, held online</i>	<i>Aug. 2021, July 2020</i>
Teaching Assistant- <i>Frontiers in Neurophotonics Summer School, Quebec City, Canada</i>	<i>June 2019</i>
Research Assistant- <i>Brown University, Providence, RI, USA</i>	<i>Oct. 2015 - Jun. 2018</i>
Research Engineer- <i>ATR International, Kyoto, Japan</i>	<i>Dec. 2012 - Jul. 2015</i>
Intern (M.Sc. Thesis)- <i>ATR International, Kyoto, Japan</i>	<i>May 2012 - July 2012</i>
Sr. Software Developer- <i>Propalms Network Pvt. Ltd., Pune, India</i>	<i>Dec. 2008 - Aug. 2011</i>
Associate Software Developer- <i>GlobalLogic, Noida, India</i>	<i>Aug. 2008 - Dec. 2008</i>

SKILLSET

Concepts: Optogenetics, Calcium imaging, Electrophysiology, Near Infra-red Spectroscopy, Signal processing; Supervised and Unsupervised Machine Learning; Statistics; Linear Algebra; Computer Vision; Augmented Reality; Computer Network Programming;

Programming env.: Python; Matlab; C; C++; C#; OpenCV; OpenGL; Windows; Linux

COMMUNITY/EXTRACURRICULAR WORK

- Co-chair, **Canadian Partnership for Stroke Recovery (CPSR) National Trainee Association**
- Committee member, **Diversity Mentorship Program**, UBC
- Editor and Communications Manager at [Neuropsyched.ca](#), a UBC-student run science magazine
- Science communicator for **Community Science Initiative 2019** at Science World, Vancouver
- Assistant Vice President (Academic services) at **Interdisciplinary Graduate Student Network (iGSN)** at University of British Columbia, Vancouver
- Added support for non-Admin users of **OpenVPN** client on Windows platform
- **Note-taker** at Student Disability Services, *Trinity College Dublin*, Dublin, Ireland

AWARDS

- [CPSR 180 Pitch Competition](#), second place
- [LLMs for Brain Health 2023](#) hackathon winner
- [AccelNet IN-BIC](#) fellowship 2021, 2022
- [CCN 2022](#) travel award (Simons Foundation)
- [Frontiers in Neurophotonics 2021](#) presentation winner
- Student choice award for project at [SWDB 2021](#)
- [Brain-Tech 2021](#) hackathon winner
- DMCBH [Neural Repair Endowment](#) 2021
- [Edward Squires Memorial Fellowship](#) 2020
- **MIT GrandHack2016** healthcare at home award
- **SAMSUNG BADA** codeathon 2011 winner

REFERENCES

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Sciences
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