Rudradeep Guha

Cognitive Scientist, Coder

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Education

M.Sc. Cognitive Science	National Research University Higher School of Economics, Moscow, Russia	September 2018 - October 2020
B.Sc. Computer Science	Ashoka University, Sonipat, India	September 2015 - May 2018

Experience

25th Architectures and Mechanisms of Language Processing

Moscow, Russia — September 2019

- Coordinated with colleagues to streamline the logistics for the 25th AMLaP conference – an international forum renowned for research in language processing and communication; and facilitated the creation of programmes and brochures in English.
- Collaborated with delegates from MIT, Max Planck Institute, Ghent University and others to create posters and present the most recent research and experimental methods in language processing.

Tunnll - Software Engineering Intern

Remote from Vadodara, India — April 2017 - August 2017

- Optimized and ensured the robustness of Tunnll's multi-platform (iOS, Android, Web) offerings.
- Worked extensively with software automation tools like Ansible and Jenkins and with virtual environments using Docker and Vagrant.
- Contributed to the firm's Kotlin codebase and undertook unit and acceptance testing.

Academic Projects

Novel Word Learning in Native & Non-Native Orthographies - Master's Thesis

- Compared novel word learning in Russian and English and investigated impact of phonological inconsistencies in orthography on learning word forms.
- Proctored neurophysiological (EEG) and psychological tests to compare learning of novel words in native and non-native orthographies and analysed neurophysiological and audio data with R and MATLAB.
- Designed and programmed visual stimuli using E-Prime while controlling for confounds and priming effects to establish internal validity.

Facial Expression Recognition using Deep Learning

- Built a convolutional neural network to detect facial expressions in images and classify them into 8 distinct emotions.
- Researched and experimented with various convolutional neural networks to minimize error rate and maximize accuracy.
- Obtained a test accuracy of 75% which increased to almost 90% when the model was used on a pre-trained neural network.

Data Analysis of Audio Stimuli Using Python

- Created Python code to automate the process of analysing audio gathered from participants and calculating reaction times.
- Refined previously existing methods to reduce time required for this process by 50%.

Skills

Programming:	Python | Javascript | Java | R | MATLAB | Dart
Tools/Libraries:	React | Numpy | Pandas | TensorFlow | nodeJS | Flutter | Xd | FieldTrip | MNE Python | E-Prime | Unity 3D
Machine Learning:	Linear Regression | CNN | RNN
Languages:	English | Hindi | Bengali | Russian