

Harvard Linguistics Talk Series

Title: Building realistic models of language with deep learning

Speaker: Gasper Begus (UCB)

Time: Friday Sept 20th, 12pm

Location: The Fong Auditorium, Boylston Hall (1st floor)

[Please note that we will not be offering a hybrid format for this year's talk series in order to encourage more in-person participation.]

Abstract:

Large language models have recently captured the attention of the linguistic community, but their architecture features several cognitively and linguistically implausible aspects. In this talk, I argue for building more realistic models that learn language from raw speech, incorporating articulators, the production-perception loop, and communicative intent. I propose the ciwaGAN model, which models language as informative imitation and features several desired properties such as communicative intent, learning from raw unsupervised audio, and embodied representations. I also present an interpretability technique, which allows us to perform linguistic experiments on the models. This technique enables us to model language in a new way--not with rules, Bayesian approaches, or exemplars, but as a dependency between latent space and generated data in generative deep models. I will argue that such modeling has implications for phonology, morphosyntax, historical linguistics, and neurolinguistics.