In this seminar, we will study the latest developments in the application of machine-learning for programming. In particular, we will cover:

* Prediction of program properties
* Recovery of type information
* de-obfuscation
* Neural-machine-translation (NMT) for programming languages
* Recurrent neural networks and formal languages
* Synthesis using "Big Code"
* Augmented programmer intelligence

This is an advanced seminar targeting graduate students who want to become experts on these topics.