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Massive Online Teaching of Programming and Simulation Using Open Source Software

by

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Abstract

In this talk, we explain a procedure we developed and implemented to provide information technology training in a massive way in India. The procedure involves developing self learning screencast tutorials and conducting workshops through volunteers. Use of open source software results in active learning. We have now trained more than half a million students since June 2011, training 300,000 students in this calendar year alone. Details are available at http://spoken-tutorial.org/statistics/training/?event_type=0.

Through textbook companions and lab migration, our project provides high level support to select open source software systems, such as Scilab, OpenFOAM and Python. We have also developed a FOSS EDA tool, and a FOSS alternative to LabVIEW. These are supported by our projects Aakash and low cost netbook computers costing less than \$100. We conclude this presentation with the ongoing work to promote OpenModelica in general and for chemical engineers, in particular. These projects are funded by the National Mission on Education through ICT (NMEICT), Ministry Human Resource Development, Govt. of India.

Short Biography

Dr. Kannan Moudgalya is a professor of chemical engineering, systems and control, and education technology at IIT Bombay. He has a B.Tech degree from IIT Madras, and MEE and Ph.D degrees from Rice University. His team has trained more than half a million students and teachers through open source software and Spoken Tutorials. He is a member of the Standing Committee of NMEICT.