Learning Programming at Scale

Understanding Diverse Learners

Female StackOverflow users [FSE 2016]
Hackathon participants [ICER 2017]
Non-programmers [VL/HCC 2015][CHI 2016][CHI 2018]
Older adults aged 60+ [CHI 2017]
Non-native English speakers [CHI 2018]

Visualizing code execution [SIGCSE 2013] [UIST 2017]
One-on-one live help [VL/HCC 2015]
One-to-many tutoring [UIST 2015]
Remote pair programming [CHI 2017]
Web-based data science [UIST 2017]

Building Programming Environments

Browsing digital textbooks [EDM 2015]
Discussing code in forums [VL/HCC 2015]
Learners annotating code [VL/HCC 2015] [VL/HCC 2017]
Multi-application tutorials [UIST 2017]
Screencast tutorial videos [Learning@Scale 2018]

Redesigning Programming Tutorials

Philip Guo – all papers available at http://pgbovine.net/publications.htm