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Paul Luo Li

Education:

M.S. Software Engineering – School of Computer Science, Carnegie Mellon University, 2006 GPA: 3.8/4.0
Courses include: Discrete multi-variable analysis, Regression analysis, Applied Bayesian methods, Time series analysis
B.A with Distinction Mathematics, Minor Computer Science, University of Virginia, 2001 GPA: 3.9/4.0
GRE: Verbal 630 (89%-tile), Quantitative 790 (97%-tile), Analytical 800 (99%-tile)

Skills:

Statistical programming: R, S-plus, SAS
General programming: C/C++, Java, Perl, SQL, Visual Basic, PHP
Environments: Windows, Unix

Employment:

IBM- Silicon Valley Labs, CA , Co-Op Sep 2005- Mar 2006

Empirically evaluated defect analysis technologies for improving the functional verification and testing process of IBM Information Integrator, which has lead to the deployment and usage the Orthogonal Defect Classification (ODC) technology by the project.

- Provided quantitative evidence of an ineffective testing process for the Information Integrator project by extracting and analyzing a large data set of software defect for three software releases over a span of 10+ years
- Justified process improvements to middle management using analysis results and testimony of technical staff
- Coordinated ODC deployment with IBM's Rational division and the IBM DB2 project

ABB Research, OH, Research Intern May 2005- Aug 2005

Collected and analyzed software metrics for two ABB real-time systems for test prioritization, maintenance resource planning, and process improvement planning efforts, which has lead to discovery of additional defects by one project.

- Produced empirical models of software quality by extracting and analyzing data from 10+ releases of two software products stored in three data repositories
- Identified cross project software metrics related to field quality measures
- Obtained "buy-in" for process improvement efforts from technical staff

Avaya Research, NJ, Research Intern May 2003- Aug 2003

Determined the predictive power of novel software metrics and identified novel ways of improving customer perceived quality using the metrics.

- Produced multiple predictive models of customer perceived quality using a large data sets collected during the customer service process and the software development process for one large telecommunications software system
- Quantified relative fault-proneness of software and hardware configurations to prioritize system test
- Quantified potential increase in reliability for individual customers from deployment adjustments

IBM- T.J. Watson Research, NY, Research Intern May 2002- Aug 2002

Examined commonalities in the field defect pattern of multiple IBM systems

- Produced empirical models of defects in deployed software for two large IBM software systems
- Determined Weibull model to better fit defects for the two IBM systems relative to other models

Carnegie Mellon University, Teaching Assistant Sep 2001- Dec 2001

Tested, analyzed, debugged, and graded student programs written in Java

Selected Publications:

P. Li, J. Herbsleb, M. Shaw, B. Robinson. Experiences and Results from Initiating Field Defect Prediction and Product Test Prioritization Efforts at ABB Inc. *ACM/IEEE International Conference on Software Engineering*, May 2006.

P. Li, J. Herbsleb, M. Shaw. "Forecasting Field Defect Rates Using a Combined Time-based and Metrics-based Approach: a Case Study of OpenBSD". *IEEE International Symposium on Software Reliability Engineering*, Nov 2005. pp193-202

P. Li, J. Herbsleb, M. Shaw. "Finding Predictors of Field Defects for Open Source Software Systems in Commonly Available Data Sources: a Case Study of OpenBSD." *IEEE International Software Metrics Symposium*, Sep 2005. p32 (Invited to be submitted to Transactions on Software Engineering Methodology)

A. Mockus, P. Zhang, P. Li. "Predictors of customer perceived software quality." *ACM/IEEE International Conference on Software Engineering*, May 2005. pp225-233.

P. Li, M. Shaw, J. Herbsleb, B. Ray, P. Santhanam. "Empirical evaluation of defect projection models for widely-deployed production software systems." *ACM International Symposium on Foundation of Software Engineering*, Oct 2004. pp263-272.

P. Li, M. Shaw, J. Herbsleb, P. Santhanam, B. Ray. An Empirical Comparison of Field Defect Modeling Methods. *CMU tech report CMU-ISRI-06-10, 2006*