**EE5373: Data Modeling Using R**

**Fall, 2017**

Department of Electrical and Computer Engineering

**University of Minnesota**

Lab 3: One-factor regression models.

Due date: See the due date shown on the class moodle page.

Goal: This lab introduces simple one-factor regression modeling using the CPU DB database.

What to do:

Develop a one-factor linear regression model for each of the benchmark programs available in the CPU DB database. (What input factor should you use as the predictor for each model?) Plot each regression model on the corresponding scatter plot of the data used to develop the model (see Figure 3.2 for an example). Evaluate the quality of the models by discussing the residuals, the p-values of the coefficients, the residual standard errors, and the R2 values, and by performing appropriate residual analysis.

What to turn in for grading:

Write a short lab report showing each of your models (that is, the coefficients for each of your models); including appropriate plots; and explaining your quality analysis. Do not forget to upload the pdf file with your report to moodle by the due date.