

**ECE571: Advanced Microprocessor Design – Homework 2**  
Fall 2022

**Due: Thursday 15 September 2022, 2:00pm**

Create a document that contains the data and answers described in the sections below. A .pdf or .txt file is preferred but I can accept MS Office or Libreoffice format if necessary.

1. Read the paper *Producing Wrong Data Without Doing Anything Obviously Wrong!* by Mytkowicz, Diwan, Hauswith and Sweeney (ASPLOS 2009).

<https://users.cs.northwestern.edu/~robby/courses/322-2013-spring/mytkowicz-wrong-data.pdf>

2. We will discuss this paper in class on Thursday the 15th so you might want to wait on reading it until closer to that time.
3. Answer the following questions:
  - (a) What is measurement bias?
  - (b) Why can changing the UNIX environment size change program performance?
  - (c) What are two of the suggested ways that can be used to avoid measurement bias?
  - (d) In Homework 1 we did measurements with the link order reversed. Did you see any differences in the results you obtained that might indicate measurement bias?

4. Submitting your work.

- Create the document containing the answers to the questions asked.
- Please make sure your name appears in the document.
- e-mail the file to me by the homework deadline.