Proposal 2: Data Science Specialization

Create a “data science specialization” analogous to the current “cybersecurity specialization” as follows (http://undergrad.cs.umd.edu/degree-requirements-cs-major).

Students looking to pursue the data science specialization are required to complete the lower level courses (MATH140, MATH141, CMSC131, CMSC132, CMSC216, CMSC250), the additional required courses (CMSC330, CMSC351, MATHXXX and STAT4xx beyond MATH141), and the upper level concentration requirements as detailed above. The difference in the specialization is the upper level computer science courses.

Students are required to take:
CMSC32x (the new “Introduction to Data Science” course)
CMSC422 (Machine Learning),
CMSC424 (Database Design),
STAT400 (This is a course most of our students need to take anyway)

Students must take one “applications” course:
CMSC423 (Bioinformatics), CMSC402 (BioInformatics II), CMSC426 (Image Processing)

Students must take three of the following to ensure breadth.
CMSC434 (HCI), CMSC451 (Alg.), CMSC412 (OS), CMSC414 (Security), CMSC433 (PL)