

The University of Texas at Austin

Master of Science in Data Science – Mathematics & Programming Preparedness Form

Applicant's name: Patrick Estep **UT EID:** pae598.

Please provide as much background information as you can for the prerequisite subjects in the table below. After completing the chart, be sure to provide documentation (in the form of transcripts and/or certificates) and highlight the specific course(s) for which you are claiming credit. We recommend completing this form, saving it as a PDF, and merging it with PDF files of your transcripts and/or certificates. At the end, you should upload 1 PDF with this form and your transcripts and/or certificates to your MyStatus portal.

For more information on the background course details, visit the [math course](#) and [statistics course](#) descriptions.

PREREQUISITE COURSEWORK

| Subject Area | Semester Taken | College/ University | Course Number & Course Title | Textbook Used | Grade Earned |
|------------------------|---------------------------|--|--|---------------|----------------|
| Linear Algebra | March 2024 | Skillssoft | Math for Data Science and Machine Learning | | 100 |
| Multivariable Calculus | Spring 1984 | Southeastern Oklahoma State University | Math 3113 | | A |
| Intro Statistics | Summer 1984 March 2021 | Southeastern Okla State Univ Micron internal course | STAT 3363: Probability Theory Intro to Statistics | | A Completed |
| Programming* | | | | | |
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| Programming* | May 2020 | University of Michigan (Coursera) | Python 3 Programming Specialization | | Certificate |

(*) For Programming, list completed courses **OR** describe relevant employment experience. If you choose the latter, briefly answer the questions below (no need to do both).

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|---|--|
| (i) Nature of programming experience (key words): | I have been a software engineer for 39 years. Programming experience includes Pascal, Ada, C, C++, x86 assembly, risc-v assembly, bash, python & perl. |
| (ii) Programming language(s) (R, python, C++ or equivalent): | I am an expert in C, C++, bash and python programming languages |
| (iii) Are you using any software repository (Github)? Please provide URL. | I regularly use git repositories, however they are internal to my employer |

RELEVANT EMPLOYMENT EXPERIENCE

If applicable, please describe your employment history as a data scientist or in another role with responsibilities similar to that of a data scientist. For all roles, please include the name of your employer, title, period of service, and indicate whether the position was permanent or temporary (consulting or internship).

Working for Micron Technology, I have extensive experience with Machine Learning and Data Science.

In 2019-2020, I worked on a compiler for a novel inference engine. I worked with customers optimizing ML applications for the inference engine as well.

My work resulted in 2 patent filings:

- * Application US17/405,738: Neural network transpose layer removal
- * Application PCT/US2022/011459: Caching techniques for deep learning accelerator

From 2022-present, I have been involved in a wide variety of machine learning tasks, including optimization of data ingestion for LLMs, LLM offloading techniques, and Reinforcement Learning algorithm development.

My work resulted in 1 patent filing:

- * Application US18/185,031: Mapping Workloads to Circuit Units in a Computing Device via Reinforcement Learning

I have also completed a Micron Data Science Program consisting of 11 separate courses. Coursework included courses in Python programming, SQL, Statistics, and data visualization.