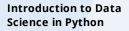


**5** Courses



Applied Plotting, Charting & Data Representation in Python

Applied Machine Learning in Python

Applied Text Mining in Python

Applied Social Network Analysis in Python



Apr 4, 2022

## **James Edward Kowalik**

has successfully completed the online, non-credit Specialization

## Applied Data Science with Python

The 5 courses in this University of Michigan specialization introduce learners to data science through the python programming language. This skills-based specialization is intended for learners who have a basic python or programming background, and want to apply statistical, machine learning, information visualization, and text analysis techniques to gain new insight into their data. In the final course, students will work on real-world data analysis projects, building a portfolio which showcases their work while at the same time helping real clients gain a better understanding of their data.

(m) for the

Christopher Brooks
Research Assistant
Professor
School of Information

Daniel Romero, Ph.D. Assistant Professor School of Information University of Michigan Kevyn Collins-Thompson Associate Professor School of Information

V. ly Vmod Winaman

V. G. Vinod Vydiswaran Assistant Professor School of Information

The online specialization named in this certificate may draw on material from courses taught on-campus, but the included courses are not equivalent to on-campus courses. Participation in this online specialization does not constitute enrollment at this university. This certificate does not confer a University grade, course credit or degree, and it does not verify the identity of the learner.

Verify this certificate at: <a href="https://coursera.org/verify/specializat">https://coursera.org/verify/specializat</a> ion/TGFAUH299GHB