

Simon Raymond

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Education

Saint Mary's University, Halifax, NS

Bachelor of Commerce, Honours Economics | Expected Graduation: May 2025

- GPA: 4.20/4.30

- Honours Project: *Predictive and Causal Analysis of 4th Down Attempts in the NFL*

- Developed web application for analyzing and displaying merged NFL play-by-play and weekly data. https://jzmtko-yigit-aydede.shinyapps.io/NFL_4th_Down_App/.

Honours Research Project

- **Dates:** Fall 2024 – Winter 2025 semesters
- **Research Focus:** Predictive and Causal Analysis of 4th Down Attempts in the NFL
- **Supervisor:** Dr. Nicholas Manuel
- **Application Development:** Created interactive web platform to allow viewing and insights into NFL play by play data that is being merged with weekly NFL data. https://jzmtko-yigit-aydede.shinyapps.io/NFL_4th_Down_App/
- **Honours Project Description**
 - Implements machine learning predictive tools. I will be using models such as XGBoost, LightGBM, Random Forest.
 - We will be implementing a form of the Heckman Correction to be able to use causal analysis on factor that have a effect as well as predictive power on 4th down results.
 - Utilizes Shiny in R for data visualization and analysis.
 - We look to identify factors that have predictive power on the result of 4th down attempts in the NFL.
 - We then look to find causal relationships between these different variables.
- **Github Repository:** <https://github.com/SimonRaymond2003/4thDownNFL>

Teaching Experience

- **Winter 2024:** Past selections to teach lab sessions:
 - *Machine Learning and Artificial Intelligence* (MBAN-5560-2). In this lab I used R to teach students about how to understand machine learning algorithms and concepts. I would teach students how to write algorithms with tools such as XGBoost or Random Forest. Most importantly though, students learned how to truly understand what is happening inside these functions as we showed them how to write non-parametric models from scratch.

- **Winter 2025:** Selected to teach lab sessions for:
 - *Machine Learning and Artificial Intelligence* (MBAN-5560-2). These labs are similar to the previous years labs but will be taught with the Python Programming language.
 - *Econometrics* (ECON-4403/5603). This lab will be taught mostly on a whiteboard with linear algebra to help students add depth to their knowledge of Econometrics. Some problems will also be demonstrated with either R or Python.
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Teaching Assistant Marking Experience

- **Past Appointments (Fall 2024):**
 - *Human Resource Economics* (ECON 3340) with Dr. Nicholas Manuel. This course had 40 students registered in it. My task was to grade assignments and provide feedback.
 - **Planned Appointments (Winter 2025):**
 - *Machine Learning and Artificial Intelligence* (MBAN-5560-2) with Dr. Yigit Aydede. I will be marking the assignments and final projects of students.
 - *Econometrics* (ECON-4403/5603) with Dr. Yigit Aydede. Besides teaching this class's labs, This role will have me marking assignments, along with midterms and exams.
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Research Assistant Experience

- **1st Project:** *Nova Scotia Neighborhood Housing app*. <https://dolphin-app-ixr9p.ondigitalocean.app/>
 - **2nd Project:** *Nova Scotia Crime Dashboard app*. <https://plankton-app-z95sf.ondigitalocean.app/>
 - **Projects' Leader:** Dr. Yigit Aydede
 - **Job Title:** Data and Software Engineer
 - **Examples of Tasks Accomplished:**
 - Cleaned Census data for displayment in tables.
 - Created a interactive system to display census variable metadata.
 - Designed and implemented the about page into our app.
 - Added a limiter to how many Generative AI api calls can be made per user.
 - Allowed a PDF download of our generated AI reports.
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Awards

- **SMU Scholarship:** I have maintained a academic scholarship for the past 4 years at SMU. This scholarship requires students to maintain a 3.67/4.30 GPA or higher at all times. It also requires students after their first year to take 15 credit hours per semester.
 - **Dean's List Recognition:** Saint Mary's University recognizes students of high academic standing by placing them on the Dean's List. I have been placed on the Sobey's School of Business Dean's List from 2022 - 2023.
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Other Work Experience

- **Grocery Stocker** | Bell's Independent Grocer | 2016-2023 This employment included stocking shelves from when I was age 13 through high school and university. I worked part-time (under 20 hours/week) up until I turned 15. Afterwards I worked (30-40 hours/week).
 - **Cashier's Assistant** | Costco | 2023-2024 This job includes helping customers bag their groceries, returning carts to their desired locations, and working as a cashier when needed. I currently work 30-40 hours/week during academic breaks (reading weeks, Christmas, summer).
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Extra-curricular Activities

- **CCO:** Catholic Christian Outreach is a student lead club on campuses across Canada. At SMU I have taken five faith studies. In my second year of studies I was a part of the student-lead Exec while leading a faith study.
 - **4-H:** 4-H is a youth development organization that empowers young people through hands-on learning experiences in agriculture, science, leadership, and life skills. I have taken the beef, sheep, poultry, exploring 4-H, and great outdoors projects. I also competed on the woodsmen and Tug-of-War teams.
 - **HCC Household program:** Holy Cross Chaplaincy is a faith based organization that has physical chaplaincies on university campuses across Canada. They operate a household program as a part of the diocese of Halifax-Yarmouth. I am a participant of this program as I live in the "St. Jerome House". This program helps young adults be in a living situation that promotes growth in our community.
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References

- **Professor Yigit Aydede**
Chair, Department of Economics
Sobey School of Business, Saint Mary's University
Contact: yigit.aydede@smu.ca
- **Professor Nicholas Manuel**
Assistant Professor, Department of Economics
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