



AMERICAN INDIAN
HIGHER EDUCATION
CONSORTIUM



UNLOCKING EFFICIENCY:

LEVERAGING GENERATIVE AI FOR VBA CODE
GENERATION IN INSTITUTIONAL RESEARCH*

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HELLO FRIENDS!

GREETING FROM AIHEC

Formed in 1973, AIHEC is a organization that supports its 37 Tribal College and University members through legislative advocacy, technical assistance, research, and program initiatives.

Program initiatives include promotion and preservation of Indigenous languages, enhancing TCU Cyberinfrastructure, climate resiliency, among others.



AIMS*

AMERICAN INDIAN MEASURES OF SUCCESS

Launched in 2004 to address some of the deficiencies in national databases (i.e., IPEDS) that made the data relatively unusable for TCUs.

1. Lack of Visibility - Combining students of two or more races into a single category
2. Goal Misalignment - Key metrics of success did not align with the unique role TCUs play in their communities

Internally developed with iterative additions added throughout its history.



AIMS*

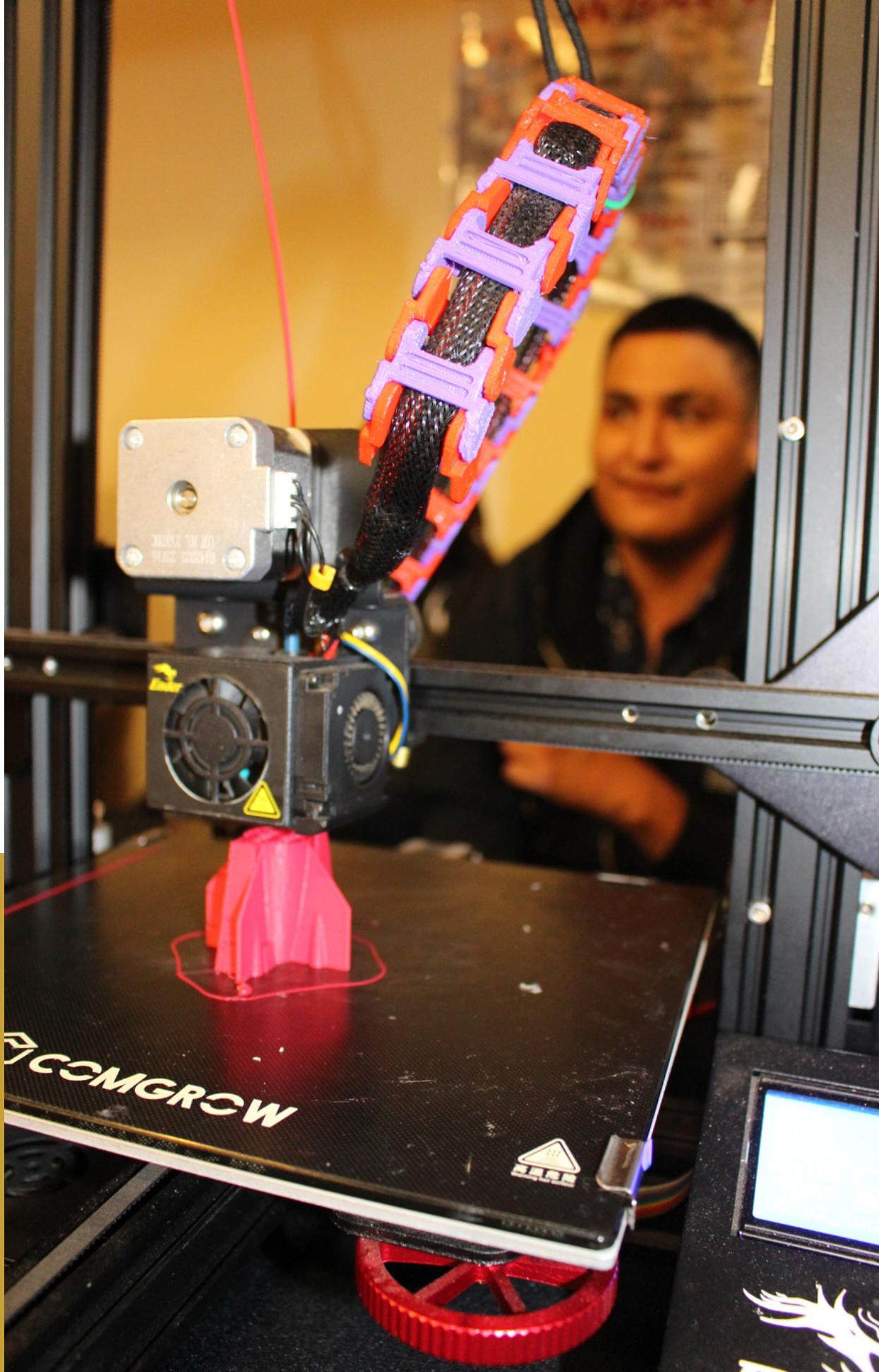
AMERICAN INDIAN MEASURES OF SUCCESS

Current iteration:

- Each institution (37 total) submits three Excel files annually (i.e., Spring, Fall, and Annual)
- 4,000+ data points annually spread over 20+ tabs
- 37 TCUs x 3 surveys annually x 20 years = **2,220 Excel Files**

Problem: How to efficiently aggregate, manipulate, and organize data across multiple tabs and files for custom reporting?





AI+VBA

WHAT IS VBA

VISUAL BASIC FOR APPLICATIONS (VBA)

Microsoft owned programming language to write macros.

Macros = Scripts of code used to automate simple and complex tasks in office

GREAT FOR REPETITIVE TASKS

Great for automating several functions across several locations

- Copying the same data over from multiple tabs
- Inserting formulas across multiple cells

TIPS/TRICKS

TO STOP YOU FROM THROWING YOUR AI OUT THE WINDOW



01 Clarity

Be as clear as possible.

Provide starting code, goals, or expected results.

02 Conversate/Iterate

The advantage of generative AI is the ability to remember past prompts. So conversate, correct/add/build upon previous code.

Break more complex asks into smaller pieces (**K.I.S.S.**)

K.I.S.S.

K - eep

I - t

S - imple

S - illy

03 Know When to Quit

Sometimes the amount of time needed to iterate/clarify requests isn't worth the time saved from just doing it yourself

LIVE DEMONSTRATION

The Need:

Consolidate program enrollments from 37 TCUs/worksheets into a single sheet

5 Step Process:

1. Delete unnecessary rows
2. Copy values to destination sheet
3. Include institution name into column A
4. Delete Empty Rows
5. Apply to all sheets

ADDITIONAL USE CASES

WHAT WE COULD DO



Guide Research Initiatives

Tell AI what you're looking to research and have it help you find a place to start



Question Generation

Aka make me sound smart

Generate qualitative questions around specific topics or reword text for conciseness and clarity



Vacation Planning

I needed a third item and couldn't think of anything specifically