

NVIDIA DLI,

To demonstrate my qualifications as an instructor for the [Fundamentals of Accelerated Computing with CUDA Python](#) workshop, first see the list of course syllabi I have taught during my teaching career, primarily within my tenure-track position Willamette but across 4 total universities.

- <https://cd-public.github.io/courses/old/index.html>

Here are four illustrative examples of (1) applications provide meaningful acceleration on a problem that could not be addressed as successfully in a CPU-only environment and (2) the specifics of the optimization strategies the applications use. In all cases, the biggest challenge was students not having local access to NVIDIA GPUs, which I have historically addressed via Google Colab.

- Addressed in the “Deep Learning” lecture of my advanced ML course.
 - <https://cd-public.github.io/D505/lec/deeplearn.html#/why-python-1>
 - Students learn about the torch framework to accelerate neural networks.
- Addressed in the “Graphics” assignment of my operating systems course.
 - https://cd-rs.github.io/os/52_graphics.html#step-4
 - Students use vectorization in NumPy.
 - Students with NVIDIA hardware use CUDA C++.
 - I provide a sample Colab document for students without NVIDIA hardware.
 - https://github.com/cd-public/coluda/blob/main/GPU_CUDA.ipynb
- Addressed in the “Numba” assignment of my scientific computing course.
 - https://cd-public.github.io/scicom/0C_numba.html
 - Students use just-in-time compilation and parallelization.
 - Students with NVIDIA hardware target numba-cuda.
- Addressed in the “SparkNLP” lab of my cloud computing course.
 - <https://cd-public.github.io/courses/old/cld24/slides/09.html#/sparknlp>
 - Students use parallelism via ASF Spark.

Here are three examples that demonstrate my basic Python competency.

- In Introduction to Programming in Python, I use gradients as a motivating example to teach array operations in a graphics framework.
 - https://cd-public.github.io/courses/cs1/slides/w9d1_pixels.html
- In Introduction to Programming in Python, I have published my code-generation resistant final exam at a pedagogical conference, outlining basic Python competency and how I assess it.
 - <https://cd-public.github.io/papers/2025/CCSCRM25.pdf>
- In my scientific computing course, which I have taught under multiple names at multiple universities, I methodically introduce the Python “data stack” including vectorization to a final assessment of accelerate Julia set rendering.
 - https://cd-public.github.io/scicom/0C_numba.html#julia-sets

Separately, as hardware security/architecture researcher, I specifically teach the importance of GPU acceleration in service classes to non-majors.

- In AI 101, I build the narrative the modern AI boom and much of the modern US economy arises from GPU accelerated vision research.
 - https://cd-public.github.io/ai101/20_supervise.html#boom

Besides teaching, I maintain an active research line in large scale data analysis with intent to prepare data sets for GPU acceleration, currently through Orca.

- <https://orca.pdx.edu/>

I have two recent publications on parsing Verilog traces into data frames from GPU-accelerated compute supporting my research direction in hardware security.

- Python & R paper: <https://cd-public.github.io/papers/2025/ACDSA25.pdf>
- Rust (Polars) paper: <https://cd-public.github.io/papers/2025/PNSQC25.pdf>
- Organizational repository: <https://github.com/vcd2df>
 - CRAN: <https://cran.r-project.org/web/packages/vcd2df/index.html>
 - PyPI: <https://pypi.org/project/vcd2df/>
 - Crates.io: <https://crates.io/crates/vcd2df>
- Slides: <https://vcd2df.github.io/pnsgc/#/title-slide>
- Recording: <https://www.youtube.com/watch?v=1aZzcUTquwk>

Besides these elements of my portfolio, I will provide a number of course evaluations attesting to my knowledge in these matters in later pages.

Thank you for your consideration, and I look forward to partnering with NVIDIA!

Profile

Subunit: COS
 Name of the instructor: Calvin Deutschbein
 Name of the course: DATA-505-02 - Applied Machine Learning
 (Name of the survey)

Values used in the profile line: Mean

2. Survey: Course Evaluation Questions

2.1) The instructor demonstrated substantial understanding of the subject matter central to the course.	Strongly Agree					Strongly Disagree	n=13	av.=1.6	md=2	dev.=0.7
2.3) In general, the Instructor was well-prepared for class sessions.	Strongly Agree					Strongly Disagree	n=13	av.=1.5	md=1	dev.=0.7
2.5) Over the term, this course was well-structured.	Strongly Agree					Strongly Disagree	n=13	av.=1.8	md=2	dev.=0.9
2.7) The pedagogical strategies of this course helped me to learn.	Strongly Agree					Strongly Disagree	n=13	av.=1.8	md=2	dev.=1
2.9) The course materials were accessible to me.	Strongly Agree					Strongly Disagree	n=13	av.=1.2	md=1	dev.=0.4
2.11) The instructor provided multiple ways to demonstrate my proficiency in the course.	Strongly Agree					Strongly Disagree	n=13	av.=1.8	md=1	dev.=1
2.13) The instructor sought to meaningfully incorporate diverse voices in the course content.	Strongly Agree					Strongly Disagree	n=13	av.=1.7	md=2	dev.=0.8
2.15) The instructor fostered a climate of mutual respect and open communication in the classroom.	Strongly Agree					Strongly Disagree	n=12	av.=1.3	md=1	dev.=0.6
2.17) The instructor sought to maintain students' interest in the course.	Strongly Agree					Strongly Disagree	n=13	av.=1.2	md=1	dev.=0.4
2.19) The instructor sought to stimulate students' intellectual curiosity and/or creative abilities.	Strongly Agree					Strongly Disagree	n=13	av.=1.4	md=1	dev.=0.5
2.21) The instructor made clear the objectives of the course.	Strongly Agree					Strongly Disagree	n=13	av.=1.5	md=1	dev.=0.7
2.23) The instructor made clear the requirements of the course.	Strongly Agree					Strongly Disagree	n=13	av.=1.6	md=1	dev.=0.8
2.25) The instructor made clear the criteria for evaluating student work.	Strongly Agree					Strongly Disagree	n=13	av.=1.5	md=1	dev.=0.7
2.27) The instructor exhibited impartiality in evaluating student work.	Strongly Agree					Strongly Disagree	n=13	av.=1.3	md=1	dev.=0.5
2.29) The instructor exhibited fairness in evaluating student work.	Strongly Agree					Strongly Disagree	n=13	av.=1.4	md=1	dev.=0.5
2.31) The instructor was reasonably available outside of class.	Strongly Agree					Strongly Disagree	n=13	av.=1.6	md=1	dev.=0.9

Comments Report

2. Survey: Course Evaluation Questions

2.2) Comments or feedback on Q2.1:

- Absolutely, Calvin is a genius
- Calvin did a great job explaining everything. I had no questions to whether he knew his stuff or not.

2.4) Comments or feedback on Q2.3:

- Calvin was amazingly well prepared.
- engaging too

2.6) Comments or feedback on Q2.5:

- Absolutely loved the structure of this course.

2.8) Comments or feedback on Q2.7:

- I found the lectures quite difficult to follow and not very helpful for completing assignments
- Pretty straight forward learning tactic. Instruct, example, exercise, assignment, review. Worked well for this material specifically.
- The entire course flowed well and built upon itself very well.

2.10) Comments or feedback on Q2.9:

- Everything was done online with an easy to find/remember URL. Loved it.

2.12) Comments or feedback on Q2.11:

- Calvin did a great job ensuring the homework would sufficiently help me learn more about what I didn't know.

2.14) Comments or feedback on Q2.13:

The evaluation will not be displayed due to low response rate.

2.16) Comments or feedback on Q2.15:

- Fun classroom environment

2.18) Comments or feedback on Q2.17:

- very engaging

2.20) Comments or feedback on Q2.19:

The evaluation will not be displayed due to low response rate.

2.22) Comments or feedback on Q2.21:

The evaluation will not be displayed due to low response rate.

2.24) Comments or feedback on Q2.23:

The evaluation will not be displayed due to low response rate.

2.26) Comments or feedback on Q2.25:

The evaluation will not be displayed due to low response rate.

2.28) Comments or feedback on Q2.27:

The evaluation will not be displayed due to low response rate.

2.30) Comments or feedback on Q2.29:

The evaluation will not be displayed due to low response rate.

2.32) Comments or feedback on Q2.31:

- Calvin was amazingly available outside of class. Absolutely loved that I could reach out to them and know that I would get a response.
- I struggled to get meaningful assistance via Discord, and professor was not available for in-person office hours

3. Comment:

3.1) Please provide additional comments for the instructor concerning teaching effectiveness. Your comments will only be read by the instructor. You may wish to comment on the strengths and weaknesses of the course/instructor and make suggestions for improvement.

- Calvin! You are hands down one of my favorite professors ever. Keep doing what you're doing and you'll go far. You're definitely someone that I will keep in touch with — amazing work, friend.
- Course website was fantastic. The grading policy also made the course much more accessible to me, as I didn't have to worry about getting things perfect the first time around. It enabled me to experiment and try new things, all without the stress. I'll really miss your class!
- Great class! Thank you for keeping Monday night lectures entertaining! Definitely helped the learning atmosphere.
- You made it an emphasis to make the class time fun and engaging, which I appreciate. Part of me wishes that we were required to take an undergraduate machine learning course so we could dive into advanced topics at the graduate level, but that is no fault of yours. While I appreciated you incorporating general tech-literacy into the class, I feel like sometimes it led to tangents. Overall, I think the structure and pedagogy were good. The live streams were very helpful, especially if there was something I needed to go back and rewatch for an explanation.