

# The Art of Presenting Science

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October 24, 2019

# Teaching Philosophy

`./images/Comic_Teaching.png`

# Teaching Philosophy

Teacher, Professor?

# Teaching Philosophy

Teacher, Professor?

I am an educational rockstar

# Teaching Philosophy

“Intellectually entertain students and make them learn”

“Don’t try to teach, try to make the students learn”

“Try to figure things out along with the students”

# Teaching Philosophy

- Spend the first lecture on motivation
- Why, What and How?
- Numerical Linear Algebra
  - The \$25,000,000,000 Eigenvector: Linear algebra behind google
  - The Smart Money's on Numerical Analysts

# Teaching Philosophy

Adopt latest technologies in teaching



# Finite Precision Computation

Solving recurrence

$$a_{n+1} = 10a_n - 9a_{n-1}$$

with  $a_0 = a_1 = 2.95$



# Polynomial Approximation

Interpolate/Approximate

$$f(x) = \frac{1}{1 + 25x^2}$$

Weierstrass approximation theorem

# MonteCarlo to compute $\pi$

`./images/pi_1.png`

# MonteCarlo to compute $\pi$

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./images/pi_2.png
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# Summary of teaching philosophy

To heighten the understanding of concepts

- Proofs and more importantly examples/counterexamples
- Application of the theorems/results
- Live computational and mathematical demonstrations
  - Students appreciate that math and programming can go hand in hand
  - Both are simple and fun to play around

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  - Students appreciate that math and programming can go hand in hand
  - Both are simple and fun to play around
- Will think along with students for the logic to be followed
- Enable them to think on the fly and adapt; contributes to their understanding

These enable students to understand the details as well as to obtain a bird's eye view of the entire landscape.