

# Lucas Saldyt

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<http://github.com/LSaldyt>  
Mesa, Arizona

## Education

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- **Barrett, The Honors College. Arizona State University** Tempe, Arizona  
*Bachelors of Computer Science, GPA: (3.7)* Sep. 2017 - Current
- **MIT Open Courseware** Online  
*Supplementary Courses: assignments at [github.com/LSaldyt](http://github.com/LSaldyt)* Ongoing
  - Data Structures and Algorithms, Quantum Algorithmic Complexity, Quantum Mechanics, Artificial Intelligence (Winston), Artificial General Intelligence (Fridman), Society of Mind, Computer Security, Information Theory

## Experience

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- **Sandia National Laboratories** Albuquerque, New Mexico  
*Quantum Computation Intern* Jun. 2015 - Sep. 2018 (3 Summers)
  - Developed high-fidelity quantum benchmarking (Gate Set Tomography) software
  - Created a distributed high-performance simulation, verification, and data analysis software
  - Oversaw porting entire codebase (over 1 million lines) to Python3.x
- **The Fluid Analogies Research Group** Remote (paid)  
*Cognitive Science Intern* Oct. 2016 - Sep. 2018
  - Revitalization of Douglas Hofstadter's "copycat" cognitive model
  - Statistical analysis and comparison of various models to human data
- **Dr. Carlos Castillo-Chavez's Complex Systems Research Group** Tempe, Arizona  
*Mathematics Intern* Oct. 2018 - Current
  - Math and computer modeling of ant nest choice and alarm propagation
- **Unitary Fund** Remote (paid)  
*Quantum Software Researcher* Jun. 2018 - Current
  - Prototyping of a quantum programming language, called "Curry"
  - Presentation in Brussels, Belgium at the FOSDEM Quantum Computing Conference
- **Los Alamos National Laboratories** Albuquerque, New Mexico  
*Quantum Computation Intern (Shadow)* April 2017
  - Benchmarking the knapsack problem on LANL's DWave and IBM's 5-qubit machine

## Skills

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**Programming Languages:** Python, C++, Clojure, Java, Haskell

**Operating Systems:** Linux (Arch, Redhat, Ubuntu), MacOS X, Windows

**Applications:** Vim, L<sup>A</sup>T<sub>E</sub>X, Jupyter Notebook, MatLab, Autodesk design, Office suites

**Libraries:** tensorflow, pandas, seaborn, numpy, scikit learn

**Natural Languages:** English, Ukranian, Spanish

## Projects

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- **pyGSTi** <https://github.com/pyGSTio/pyGSTi>  
*Sandia National Labs* 2015 - Current
  - Quantum Gate Set Tomography in Python. I am the second highest contributor with over 700 commits
- **Curry** <https://github.com/LSaldyt/curry>  
*Unitary Fund* 2018 - Current
  - A quantum programming language built on top of Rigetti pyquil. I lead the project, organizing a small team of software developers through the github issues and project system
- **Vorpai** <https://github.com/LSaldyt/vorpai>  
*Independent* Dec. 2017
  - A research and collaboration website, written in Clojure
- **Nova** <https://github.com/LSaldyt/nova>  
*Independent* Oct. 2017
  - An Alexa-like assistant on Linux
- **Cryptometric** <https://github.com/LSaldyt/cryptometric>  
*Independent* Oct. 2017
  - A server app that sends cryptocurrency statistics to a mobile phone by text

## Awards

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ASU New American University Scholarship (\$14,000 annually)	2017
ASU Discovery Fellowship (\$5,000)	2019
Fluid Analogies Research Grant (\$5,000)	2017
FURI Research Grant (\$3,000)	2017
Unitary Fund Research Grant (\$2,200)	2018

## Interests

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**Academic:** Quantum Computing, Cognitive Science, Artificial Intelligence, Computer Science, Mathematics, Software Engineering

**Sports:** Okinawan Karate

**Musical:** Playing classical guitar and piano, composing music

**Other:** Writing novels (I have completed two, as well as some short stories and poetry)