

# ALEX EFTIMIADES

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## WORK EXPERIENCE

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### **Catalist LLC** *Analytics Engineer*

Washington DC  
Feb 2018 | Present

- Optimized and deployed Keras/Tensorflow models
- Designed and wrote code refactoring tools
- Designed and wrote real time data processing pipeline
- Wrote internal technical guides on parallel processing
- Contributed code to Keras

### **Comsol** *Developer*

Burlington, MA  
Feb 2016 | May 2017

- Researched models and techniques to simulate physical phenomena of interest to engineers and scientists
- Wrote technical specifications of model, algorithm, and graphic interface
- Implemented algorithms used for numerical simulations and user interfaces in java
- Helped customers create and optimize simulations

### **Self Employed** *Freelance Software Engineer*

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March 2013 | Pres

- American Dental Association Foundation - data visualization, image processing
- University of Maryland Baltimore County - high performance computing and simulations
- Tor - internet censorship circumvention, protocol design, threat analysis

## RELEVANT BUZZWORDS

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Programming Languages:	Python, Bash, SQL, C++
Frameworks:	Keras, Numpy/Scipy, Cython, Pandas, scikit-learn, GNU Parallel
Tools:	Git, Vim, AWS, Jupyter, matplotlib, hdf5

## PROJECTS

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**Toy Q Learning Python** <https://github.com/aeftimia/Reinforcement-TicTacToe>  
Trained two bots to learn to play tic tac toe via Q learning.

**Discrete Exterior Calculus Framework Python, Cython, Cuda** <https://github.com/aeftimia/kahler>  
Developed and reported on efficient and parallelized finite elements framework

## PUBLICATIONS

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**Enhancing the Three-Dimensional Structure of Adherent Gingival Fibroblasts and Spheroids via a Fibrous Protein-Based Hydrogel Cover.** Cells Tissues Organs  
Published with biologists as American Dental Association Foundation Aug. 2016

**Kahler: An Implementation of Discrete Exterior Calculus on Hermitian Manifolds**  
<http://arxiv.org/abs/1405.7879>  
Independent research and implementation May 2014

## EDUCATION

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**UMBC** Catonsville, MD  
BS Physics 2013 - 2015