

# DENIS VASHCHENKO

## EDUCATION

### University of California, Merced

B.S. Computer Science and Engineering

- Member @ Association for Computing Machinery
- Volunteer Note-taker @ Computer Organization, Assembly Language

May 2020  
Major GPA: 3.46

## EXPERIENCE

### Geospatial Research Assistant

VICE Lab @ University of California, Merced

October 2018 - Present  
Merced, CA

- Introducing novel computational approaches to environmental engineering.
- Developing geospatial analysis solutions to complex hydrological and agricultural challenges by parsing and analyzing satellite and UAV imagery via Google Earth Engine.
- Streamlining processes via Machine Learning, developing multiple Deep Learning models to estimate fauna visitation to stock ponds.
- Utilizing TensorFlow to estimate sediment displacement from landslides, democratizing our understanding of how natural disasters affect particulate concentrations in watersheds.

### Computational Research Assistant

Professor Kyrilov @ University of California, Merced

September 2018 - Present  
Merced, CA

- Developing a platform for automated code submission, execution, and debugging for upper-division computer science classes, promoting a more engaging learning environment.
- Integrating physical control systems to provide real-time haptic feedback for interpreted scripts.

### Machine Learning Research Assistant

AI Summer

May 2018 - October 2018  
Merced, CA

- Researched how to interpret gaps in stitched UAV imagery and transforming identified imagery using OpenCV with planar homography principles.
- Constructed a custom data set using PIL used to simulate gaps in panoramic images.
- Achieved 97% accuracy on the CIFAR100 data set recognizing objects with a sequential Convolutional Neural Network using the Keras API.

### AppleCare Advisor

Apple Inc.

May 2018 - October 2018  
Merced, CA

- Effectively isolated iOS, watchOS, and Account Security issues and expedited resolution processes that catered to customers of varying technical experience.

### Web Developer

Society of Physiologists @ University of California, Merced

January 2017 - January 2018  
Merced, CA

- Modernized and maintained the society's online presence, designing and implementing a Drupal instance to function as a forum, blog, and informational website.

## PROJECTS

### BitNaughts Data Visualizer (EcoHacks 2<sup>nd</sup> place 2018)

October 2018

- Developed a SQL data visualization tool using C# and Unity, gamifying sustainability awareness.
- Designed application wireframes and implemented them within a twelve hour time constraint.
- Dynamically scaled graphs to emphasize water usage and conservation efforts in coordination with UC Merced's Department of Sustainability.

### Fit X

October 2018

- Building a Swift native iOS app for fitness enthusiasts to track caloric intake.
- Implementing QR scanner for nutritional data, BMR calculator, and physique visualizer.

### Oxiliary Media

April 2017

- Designing a promotion platform on YouTube, Soundcloud, Twitter, and Instagram.
- Combining multiple RESTful API's to develop an efficient pipeline for music trend analysis.

## CONTACT

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## LANGUAGES

Python  
R  
JavaScript  
C++  
C#  
C  
HTML  
CSS  
Swift

## SOFTWARE

TensorFlow  
Keras  
NumPy  
Jupyter  
Google Earth Engine  
PIL  
OpenCV  
Unity3D  
OpenGL  
GLUT  
Flask  
Drupal  
Firebase

## AWARDS

EcoHacks 2<sup>nd</sup> Place  
Mobile App Semifinals  
Dean's Honors List

## COURSES

Data Structures  
Algorithm Design  
Computer Networks  
Robotics  
Assembly Language  
Object-Oriented Prog.  
Discrete Mathematics  
Circuit Theory  
Linear Algebra  
Vector Calculus

## LANGUAGES

English  
Russian  
Spanish