

## DIPTODIP DEB

*email*            [dd@d2d.sh](mailto:dd@d2d.sh)

*website*        <https://d2d.sh/about>

### RESEARCH INTERESTS

computational microscopy, machine learning, computer vision

### EDUCATION

2015–2018    Georgia Institute of Technology (Georgia Tech)

*B.S. Computer  
Science*

GPA: 3.85 · School: Computer Science

Concentration: Theory, Intelligence

Relevant Coursework: Machine Learning, Intro to Computer Vision, Combinatorial Analysis, Advanced Algorithms

### EXPERIENCE

2018–Present    JANELIA RESEARCH CAMPUS

*Software Engineer  
(Research)*

Performing research on computational microscopy and deep learning for PSF engineering in a light field microscope.

<https://www.janelia.org/lab/turaga-lab>

Summer 2018    JANELIA RESEARCH CAMPUS

*Janelia  
Undergraduate  
Scholar*

Performing research on connectome segmentation techniques.

<https://www.janelia.org/lab/turaga-lab>

2015–2018    GEORGIA INSTITUTE OF TECHNOLOGY

*Undergraduate  
Researcher I*

Developed computer vision techniques to count RNA transcripts in smFISH images using random forests and image processing methods.

<https://genaamics.org/index.html>

Summer 2017    UNIVERSITY OF COLORADO, COLORADO SPRINGS

*REU Researcher*

NSF Research Experience for Undergraduates (REU) program. Developed perspective-free counting methods using dilated convolutional neural networks. This work was presented at a CVPR workshop.

<http://www.cs.uccs.edu/~jkalita/reu.html>

Summer 2016    ILLINOIS INSTITUTE OF TECHNOLOGY

*REU Researcher*

NSF REU. Worked on a theoretical problem of virtual machine migration, formulated as a constrained optimization problem using relaxations of integer linear programs.

<http://datasys.cs.iit.edu/grants/BigDataX/>

*Publications begin on next page.*

## PUBLICATIONS

- Under Review*      *July 2020*      Algorithms underlying flexible phototaxis in larval zebrafish  
 Authors: Alex CHEN, Diptodip DEB, Armin BAHL, Florian ENGERT  
 We demonstrate, with behavioral experiments and computational modeling, that larval zebrafish use phototaxis to maintain environmental luminance at a set point that depends on luminance history.  
<https://www.biorxiv.org/content/10.1101/2020.07.18.210260v1>
- Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition Workshops*      *June 2018*      An Aggregated Multicolumn Dilated Convolution Network for Perspective-Free Counting  
 Authors: Diptodip DEB, Jonathan VENTURA  
 We propose the use of dilated filters to construct an aggregation module in a multicolumn convolutional neural network for perspective-free counting.  
[https://openaccess.thecvf.com/content\\_cvpr\\_2018\\_workshops/...](https://openaccess.thecvf.com/content_cvpr_2018_workshops/...)

## SKILLS

- Programming Software*      PYTHON, C, RUST  
 2D DESIGN: Adobe Photoshop, Adobe Illustrator, Inkscape

## MISCELLANEOUS

- Leadership*      Spring 2017 – Fall 2018 · Chairman of Georgia Tech Theoretical Computer Science Club · Organized talks by CS/math professors for undergraduate students to make CS research accessible.  
 Fall 2016 – Fall 2018 · Internal Operations of Georgia Tech Artificial Intelligence Club · Delivered weekly talks on various machine learning techniques and organized interactive projects to get students more access to machine learning ideas.  
 Fall 2017 – Spring 2018 · Undergraduate Research Ambassador of Georgia Tech · Held office hours and gave advice for undergraduate students looking for advice to get started doing research.
- Service*      2012 – 2015 · Over 200 hours of assisting patients post-op as lead volunteer on cardiac nursing floor. Also handled medicine packaging at hospital pharmacy. · Orlando Regional Medical Center · Orlando, FL, USA
- Achievements*      2015 · National Merit Semifinalist
- Languages*      ENGLISH · Fluent  
 BENGALI · Mother tongue
- Interests*      Table Tennis · Design · Building Keyboards · Tabla

October 28, 2020