# David Shi

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## Education

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| 2017-2021 | **The Johns Hopkins University**, *Baltimore, MD*<br>Major: B.Sc. in Biomedical Engineering, Computer Engineering<br>Minor: Computer Science |

## Research Experience

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| 2021- | **Dept. of Molecular Therapeutics and Pharmacology - Columbia University Irving Medical Center,** *New York, NY*<br>Research Technician; Advisor: Nikhil Sharma<br>• *Analysis of enteric neuron subtype morphologies using intersectional mouse genetics, RNA sequencing, immunostaining, and confocal microscopy*<br>• *Analysis of enteric neuron response profiles using ex vivo calcium imaging, image processing in ImageJ, and data analysis in R and Python* |
| 2019-2020 | **Dept. of Biomedical Engineering - Johns Hopkins University,** *Baltimore, MD*<br>Undergraduate Research Assistant; Advisor: Tilak Ratnanather<br>• *Implementing bash scripts to validate a longitudinal pipeline for diffeomorphic mapping of brain regions* |
| 2018-2020 | **Institute for Nanobiotechnology - Johns Hopkins University,** *Baltimore, MD*<br>Undergraduate Research Assistant; Advisor: Peter Searson<br>• *Behavioral study on the viability of emotional stimuli for sweat induction*<br>• *Integrating Bluetooth devices with a custom sweat rate sensor for real-time on-body sweat rate measurements* |

## Teaching Experience

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| 2020 | **Dept. of Computer Science - Johns Hopkins University,** *Baltimore, MD*<br>Course Assistant, Computer Vision<br>• *Graded bi-weekly assignments and hosted weekly office hours for 50 students* |

## Work Experience

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| 2020 | **Sonavex Inc.,** *Baltimore, MD*<br>Software Engineering Intern<br>• *Implemented and maintained test suites for clinical software*<br>• *Manual delineation of ultrasound images for the curation of a deep learning dataset with a custom PyQt5 tool* |
| 2020 | **Dept. of Biomedical Engineering - Johns Hopkins University,** *Baltimore, MD*<br>Course Grader, Linear Signals and Systems<br>• *Graded bi-weekly assignments for ~100 students* |

## Awards/Honors

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| 2017-2021 | **Dean's List (all semesters applicable)** |
| 2021 | **2021 Best Project Award**<br>Machine Learning: Deep Learning<br>*WaveNetAutoencoder with Contrastive Predictive Coding for Music Translation* |

## Publications

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| 2022 | Lijun Qi, **David Shi**, Pranav Reddy, Michael Iskols, Christopher Walker, Isaac Chiu, Tiphaine Voisin, Mattia Pawlak, Vijay Kuchroo, David Ginty, Nikhil Sharma. *Extensive genetic access to somatosensory neurons reveals morphological and functional profiles of DRG neuron subtypes. 2022.* **Manuscript in preparation** for *Cell*. |