Nicholas Kantack

603 Concord Ave, Apt 605 · Cambridge, MA 02138 · 240-713-4224 · nickkantack@gmail.com

Education

University of Oklahoma
Bachelor of Science: Engineering Physics
Graduated May 2016
Cumulative GPA: 3.98

University of Virginia
Master of Science: Electrical Engineering
Graduated December 2020
Cumulative GPA: 3.87

Work/Research Experience

Johns Hopkins Applied Physics Laboratory July 2018 - Present
Software Developer/Electrical Engineer

- Principal investigator for six internal research grants totaling $315,000 in funding
- Projects include AI research for human-machine teaming, machine learning for state estimation and localization, and thin film RF device design

IntriCon Corporation May 2016 - July 2018
Electronics Manufacturing Engineer

- Design and prototype millimeter scale inductors for implantable medical devices
- Physical simulation and data analytics software design and support

Univ. of Oklahoma & South Dakota State Univ. January 2014 - May 2016
Undergraduate Research

- Characterize porous silicon solar cells, fit physical models to performance (OU - Senior research)
- Develop fabrication processes for organic perovskite solar cells (SDSU - Summer research)

Skills

Proficient Java, Javascript, Python, C++, C#, Android, CAD, 3D printing, digital circuits, Arduino, Raspberry Pi, VR/AR development (HoloLens, Oculus Quest), Git

Familiar OpenSCAD, AutoCAD, Unity, Matlab, LaTeX, NodeJS, AngularJS, KiCad, TensorFlow, PCB design

Volunteering

Tutoring January 2014 - Present
OU Math center, JHU College Prep program

STEM Development May 2019 - Present
High school & college mentor, intern supervisor (APL)

Projects

Visit nickkantack.com for more information.

Nicholas Kantack

603 Concord Ave, Apt 605 · Cambridge, MA 02138 · 240-713-4224 · nickkantack@gmail.com

Publications

N. Kantack, N. Cohen, N. Bos, C. Lowman, J. Everett, T. Endres, "Instructive artificial intelligence (AI) for human training, assistance, and explainability," SPIE Defense & Commercial Sensing, April 2022, *Accepted. To appear.*

N. Kantack, "Reinforcement Learning on Human Decision Models for Uniquely Collaborative AI Teammates," November 2021, https://arxiv.org/abs/2111.09800

N. Kantack, S. Langevin, T. VanVolkenburg, J. Skerritt-Benzing, Z.Xia, R. Hoheisel, J. MacMahan, S. Brown, "Robust Ocean Salinity Sensing," Proceedings from IEEE Oceans, September 21, 2021

S. Langevin, N. Kantack, J. Skerritt, T. VanVolkenburg, Z. Xia, "Hydrogels with controlled degradation," ACS Spring National Meeting, April 5, 2021

A. Dubey, N. Kantack, N. Adhikari, K. M. Reza, S. Venkatesan, M. Kumar, D. Khatiwada, S. Darling, Q. Qiao, "Room Temperature, Air Crystallized Perovskite Film for High Performance Solar Cells," J. Mater. Chem. A, 2016, 4,10231-10240, DOI: 10.1039/C6TA02918C

B. Vaagensmith, K. M. Reza, N. Hasan, H. Elbohy, N. Adhikari, A. Dubey, N. Kantack, E. Gaml, Q. Qiao, "Environmentally Friendly Plasma-Treated PEDOT:PSS as Electrodes for ITO-Free Perovskite Solar Cells," ACS Appl. Mater. Interface, 2017, 9,41,35861-35870, DOI: 10.1021/acsami.7b10987

Presentations

"EyeOnTeam - Seeing Teammates through Floors, Walls, and Obstacles," Johns Hopkins Applied Physics Laboratory XR Symposium, 2021, http://www.youtube.com/watch?v=bUXYAX7k_V0

"Performance Characterization of Porous Silicon Schottky Solar Devices," Oklahoma NASA Energy and Material Symposium, University of Tulsa, 2016