Nicholas Heller

Curriculum Vitae

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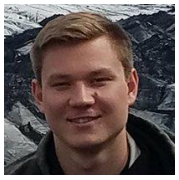

Research Interests

Interpretable machine learning, data mining, visual biomarker discovery, medical image computing, urologic oncology.

Education

2017–Present **PhD Computer Science & Engineering**, *University of Minnesota – Twin Cities*.
Advisor: Nikolaos Papanikolopoulos
GPA: 3.88

2013–2017 **B.S. Computer Science**, *University of Minnesota – Twin Cities*.

Selected Publications and Presentations

2019 *Class Saliency Maps Reveal Computer Vision's Basis for Diagnosing Metastatic Carcinoma in Lymph Nodes*.
Nicholas Heller, Nikolaos Papanikolopoulos, Vassilios Morellas, and Alexander Truskinovsky
Platform Presentation, Annual Meeting of the US and Canada Academy of Pathology

2019 *Automatic R.E.N.A.L. nephrometry scoring using machine learning*.
Paul Blake, Niranjan Sathianathen, **Nicholas Heller**, Joel Rosenberg, Zachary Rengel, Keenan Moore, Heather Kaluzniak, Ed Walczak, Nikolaos Papanikolopoulos, and Christopher Weight
Poster, Annual Meeting of the European Association for Urology

2018 *Imperfect Segmentation Labels: How Much Do They Matter?*.
Nicholas Heller, Joshua Dean, and Nikolaos Papanikolopoulos
Oral Presentation, MICCAI LABELS Workshop, 2018

2018 *Computer Aided Diagnosis of Skin Lesions from Morphological Features*.
Nicholas Heller, Erika Bussmann, Aneri Shah, Joshua Dean, Nikolaos Papanikolopoulos
Technical Report

2018 *A Balance Cascade of Deep Neural Networks for CT Renal Segmentation*.
Nicholas Heller, Michael Tradewell, Joshua Dean, Vassilios Morellas, Nikolaos Papanikolopoulos, Niranjan Sathianathen, and Christopher Weight
Poster, Annual Meeting of the Engineering & Urology Society

2018 *Convolutional Neural Networks for Aircraft Noise Monitoring*.
Nicholas Heller, Derek Anderson, Matt Baker, Brad Juffer, Nikolaos Papanikolopoulos
Technical Report

2017 *A Web-Based Platform for Distributed Annotation of Computerized Tomography Scans*.
Nicholas Heller, Panagiotis Stanitsas, Vassilios Morellas, Nikolaos Papanikolopoulos
Poster, MICCAI LABELS Workshop, 2017

Service

Lead Organizer	2019 MICCAI Kidney Tumor Segmentation Challenge, 2019 MICCAI LABELS Workshop, University of Minnesota "Medical Imaging With AI" (MIWAI) Journal Club.
Organizer	2019 Annual Meeting of the Engineering and Urology Society.
Reviewer	International Conference on Robotics and Automation (2019), IEEE Transactions on Intelligent Transportation Systems (2018 - present), MICCAI LABELS Workshop (2018), Annual Meeting of the Engineering and Urology Society (2018).

Teaching

Spring 2018	CSCI 2033, Elementary Computational Linear Algebra, *Head TA, Guest Lecturer*.
Fall 2017	CSCI 5511, Artificial Intelligence 1, *Head TA, Guest Lecturer*.

Graduate Coursework

In Progress	Special Advanced Topics in Robotics and Vision, Computer Vision, Architecture and Implementation of Database Management Systems.
Completed	Error-correcting Codes Finite Fields and Algebraic Curves, Computational Aspects of Matrix Theory, Theory of Probability and Statistics, Introduction to Machine Learning, Analysis of Numerical Algorithms, Introduction to Research in Computer Science, Colloquium.

Awards

Best Poster Award at EAU 2019.

ARCS Foundation Scholar.

Best Paper Nomination at MICCAI LABELS 2018.

UMN TA Professional Development Certification.

References

Nikolaos Papanikolopoulos
Distinguished McKnight Presidential Endowed Professor
Computer Science and Engineering
University of Minnesota – Twin Cities

Victoria Interrante
Professor
Computer Science and Engineering
University of Minnesota – Twin Cities

Marvin Marshak
Distinguished Professor
Physics
University of Minnesota – Twin Cities

Christopher Weight
Associate Professor
Urologic Surgery
University of Minnesota – Twin Cities