Edward Pearson Chandler
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Research Interests

Computational Imaging, Computer Vision, Deep Learning, Optimization

Education

Washington University in St. Louis (WUSTL) 2023 - Present

Ph.D. in Computer Science
Adviser: Professor Ulugbek S. Kamilov
GPA: 4.00 / 4.00

Washington University in St. Louis (WUSTL) 2019 - 2023

B.S. in Computer Science + Mathematics joint program

- Academic Advisor: Professor Ron Cytron
- Minor in Philosophy-Neuroscience-Psychology

GPA: 4.00 / 4.00

Awards

NSF GRFP Honorable Mention (2024)
McKelvey School of Engineering Dean's Select PhD Fellowship (2022)
McKelvey School of Engineering Award for Research Excellence - Computer Science and Engineering (2023)
McKelvey School of Engineering Valedictorian (2023)
Antoinette Frances Dames Award for Productive Scholarship in Engineering (2021)

Publications

E. P. Chandler, S. Shoushtari, J. Liu, M. S. Asif and U. S. Kamilov, "Overcoming Distribution Shifts in Plug-and-Play Methods with Test- Time Training," Proc. 9th Int. Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP 2023), pp. 186-190

S. Shoushtari, J. Liu, **E.P. Chandler**, M. S. Asif, and U. S. Kamilov, "Prior Mismatch and Adaptation in PnP-ADMM with a Nonconvex Convergence Analysis," Proc. Int. Conf. on Machine Learning (ICML 2024)

Technical and Relevant Experience

WUSTL Computational Imaging Group September, 2020 - Present

Student Researcher

- Advisor: Prof. Ulugbek S. Kamilov
- Graduate Student Advisors: Yu Sun; Xiaojian Xu; Jiaming Liu; Shirin Shoushtari

Task: Research in optimization and deep-learning based approaches to solving imaging inverse problems, particularly for magnetic resonance imaging (MRI) [Python (Pytorch; Numpy), MATLAB]

ENS Laboratoire Kastler Brossel Complex Media Optics Lab January, 2024 - Present

Visiting Student Researcher
Complex Media Optics Lab led by Prof. Sylvain Gigan and Dr. Hilton Barbosa de Aguiar at École Normale Supérieure

Task: With Prof. Kamilov, working on research collaborations for future publications

General Dynamics Information Technology — September, 2021 - August, 2022

Computer Vision Data Science Intern (part-time paid internship)

Task: Trained and evaluated image segmentation models for satellite imagery [Python (TensorFlow; Keras; Numpy; GDAL; Rasterio); Linux (High Performance Computing environment)]

Teaching Assistant — September, 2020 - December, 2020

Teaching assistant for Data Structures and Algorithms (CSE 247)

Tasks: Weekly lead a group of students through a collection of analytical and coding problems related to the week's coursework and answer questions related to material

The Trade Desk — January - April, 2019

Software Engineer Intern (full-time paid internship)

Task: Created a news app using The Trade Desk's database of internet users

Relevant University Coursework

Computer Science

- Adversarial AI (CSE 555T)
- Large-Scale Optimization for Data Science (ESE 515)
- Introduction to Machine Learning (CSE 417T)
- Optimization (ESE 415)
- AI and Society (CSE 411A)
- Analysis of Algorithms (CSE 347T)
- Rapid Prototype Development and Creative Programming (CSE 330S)
- Data Structures and Algorithms (CSE 247A

Mathematics

- Probability (Math 493)
- Linear Algebra (Math 429)
- Graph Theory (Math 371)
- Probability and Statistics for Engineering (ESE 326)
- Matrix Algebra (Math 309)
- Calculus III (Math 233

Imaging

- Mathematics of Imaging Science (BME 570)
- Remote Sensing (EPSc 407)
- Special Topics: Mapping with GNSS and Drones in the Field (EPSc 400)

Technical Skills

Python (Pytorch; Tensorflow; Numpy); MATLAB

Online Certificates (via Coursera)

Coursera Deep Learning Specialization — Aug 27, 2020

Material: Neural Networks; Deep Learning; Convolutional Neural Networks; Sequence Models

Certificate Link: https://coursera.org/share/75fb07dac784954c28c398993f6cd6c1

Extracurricular: Climbing; Skiing; Long-Distance Running