

AJINKYA ANIL KADU

E-mail: a.a.kadu@uu.nl

Webpage: <https://ajinkyakadu125.github.io>

Curriculum Vitae

RESEARCH INTEREST	Computational Imaging (tomography, inverse scattering, cryo-EM, MRI) with focus on large-scale optimization, convex analysis, level-set method and regularization techniques	
EDUCATION	Mathematical Institute, Utrecht University , Utrecht, The Netherlands Ph.D. Candidate in Mathematical Modeling group <ul style="list-style-type: none">Dissertation Topic: Discrete Seismic TomographyAdvisors: Tristan van Leeuwen, Wim A. Mulder, K. Joost Batenburg Indian Institute of Technology Bombay , Mumbai, India Bachelor and Master of Technology, Department of Aerospace Engineering <ul style="list-style-type: none">Advisors: N. Hemachandra, R. P. ShimpiGPA: 8.7/10 (<i>Specialization</i>: Operations Research)	2015 - present 2010 - 2015
ACADEMIC VISITS	University of Washington , Seattle, WA, USA <ul style="list-style-type: none">Mentor: Aleksandr AravkinPrimal-dual method for discrete tomography Georgia Institute of Technology , Atlanta, USA <ul style="list-style-type: none">Mentors: Felix Herrmann, Gabrio Rizzuticonvex formulation for tomographic imaging of multiple discrete objects University of British Columbia , Vancouver, Canada <ul style="list-style-type: none">Mentors: Felix Herrmann, Eldad HaberLarge-scale framework for geophysical imaging	March 2019 October 2018 Winter 2016
WORK EXPERIENCE	Mitsubishi Electric Research Labs , Cambridge, MA, USA <ul style="list-style-type: none">Mentors: Hassan Mansour, Petros BoufounosReflection tomographic system for high-contrast objects Honeywell Technology Solutions , Bangalore, India <ul style="list-style-type: none">Mentors: Kartavya Mohan Gupta, Hanumantha Rao DesuIntegration bench for General Aviation to recreate flight test scenarios	Summer 2018 Summer 2013
TEACHING EXPERIENCE	Teaching Assistant – Utrecht University <ul style="list-style-type: none">WISB 251: Numerical AnalysisWISB 356: Introduction to Scientific Computing Teaching Assistant – IIT Bombay <ul style="list-style-type: none">AE 151: Introduction to Aerospace EngineeringAE 308: Engineering Design Optimization	2017, 2018, 2019 2017, 2018 2015 2014

Research

JOURNAL PUBLICATIONS	(1) High-contrast Limited-angle Reflection Tomography. Ajinkya Kadu, Hassan Mansour, Petros Boufounos, Dehong Liu (<i>in preparation</i>). (2) A Convex Formulation for Binary Tomography. Ajinkya Kadu, Tristan van Leeuwen, <i>IEEE Transactions on Computational Imaging</i> 2019. (3) Salt Reconstruction in Full Waveform Inversion with a Parametric Level-Set Method. Ajinkya Kadu, Tristan van Leeuwen, Wim A. Mulder, <i>IEEE Transactions on Computational Imaging</i> 2017.	
PATENTS	(1) Tomographic Imaging System. Hassan Mansour, Ajinkya Kadu, Petros Boufounos, Dehong Liu, (<i>submitted</i>).	
CONFERENCE PROCEEDINGS	(1) Reflection Tomographic Imaging of highly scattering objects using Incremental Frequency Inversion. Ajinkya Kadu, Hassan Mansour, Petros Boufounos, Dehong Liu, <i>IEEE ICASSP</i> 2019. (2) Full-waveform Inversion with Mumford-Shah regularization. Ajinkya Kadu, Rajiv Kumar, Tristan van Leeuwen, <i>SEG Annual Meeting</i> 2018.	

	<p>(3) Decentralized Full Waveform Inversion. Ajinkya Kadu, Rajiv Kumar, <i>EAGE Annual Meeting 2018</i>.</p> <p>(4) Parametric Level-Set Full-Waveform Inversion in the presence of Salt Bodies. Ajinkya Kadu, Tristan van Leeuwen, Wim A. Mulder, <i>SEG Annual Meeting 2017</i>.</p> <p>(5) A parametric level-set method for partially discrete tomography. Ajinkya Kadu, Tristan van Leeuwen, K Joost Batenburg, <i>Discrete Geometry and Computer Imagery, 2017</i>.</p> <p>(6) A parametric level-set approach for seismic full-waveform inversion. Ajinkya Kadu, Tristan van Leeuwen, Wim A. Mulder, <i>SEG Annual Meeting 2016</i>.</p>
NEWS ARTICLES	<p>(1) Discrete Seismic Tomography. Ajinkya Kadu, Tristan van Leeuwen, Wim A. Mulder, <i>SIAM Online News 2019</i>.</p> <p>(2) Geometric Imaging for Subsurface Salt Bodies. Tristan van Leeuwen, Ajinkya Kadu, Wim A. Mulder, <i>ERCIM News 2017</i>.</p>
MISCELLANEOUS	<p>Invited Talks</p> <ul style="list-style-type: none"> • Oberwolfach Meeting on Tomographic Inverse Problems, Germany Jan 2019 • Imaging and Computing group, MIT, Boston, US Oct 2018 • Center for Signal and Information Processing Seminar, GeorgiaTech, Atlanta, US Oct 2018 • SIAM Conference on Imaging Science, Bologna, Italy June 2018 • SIAM Conference on Geosciences, Erlangen, Germany Sep 2017 • SIAM Annual Meeting, Pittsburgh, PA July 2017 • Seismic Seminar, SLIM Group, Vancouver, Canada Apr 2016 <p>Contributed Talks</p> <ul style="list-style-type: none"> • Mathematics of Planet Earth Meeting, Amsterdam, Netherlands Nov 2018 • Society of Exploration Geophysics Annual Meeting, Anaheim, USA Oct 2018 • Society of Exploration Geophysics Annual Meeting, Houston, USA Sep 2017 • International Conference on Discrete Geometry for Computer Imagery, Vienna, Austria Sep 2017 • Society of Exploration Geophysics Annual Meeting, Dallas, USA Oct 2016 • Computational Sciences for Future Energy Conference, Utrecht, Netherlands Oct 2016 <p>Reviewer IEEE TIP, IEEE TGRS, Geophysics, Computational Geosciences, SEG 2019</p>
Academic Experience and Achievements	
SCHOLASTIC ACHIEVEMENTS	<p>Travel Awards</p> <ul style="list-style-type: none"> • ICERM Workshop on Computational Imaging, Providence, RI March 2019 • SIAM Student Travel award to attend the SIAM IS18 in Bologna, Italy June 2018 • SIGMA Workshop, CIRM Marseille, France Nov 2016 <p>Student Awards</p> <ul style="list-style-type: none"> • Received Best Poster Award at NWO NDNS+ Meeting in Twente, NL June 2016 • Awarded Shell-NWO's CSER Fellowship to pursue graduate studies (top 0.3 percentile) 2015-19 • Secured a rank of 771 in IIT-JEE among 0.47 million students across India (top 0.16 percentile) 2010
RELEVANT COURSEWORK	Wavefield Imaging (TU Delft), Inverse Problems (UBC), Randomized Linear Algebra (MIT), Machine Learning (UBC), Convex Optimization (UU), Compressed Sensing (UBC)
Extracurricular Activities	
SERVICE	<p>Founding Member, SIAM Student Chapter, Utrecht University (2017-19)</p> <ul style="list-style-type: none"> • Spearheaded the formation of chapter and managed the website and social awareness • Represented student chapter at SIAM Annual Meeting 2017 at Pittsburgh, PA <p>Coordinator, Department Academic Mentorship Program, IIT Bombay (2014-15)</p> <ul style="list-style-type: none"> • Led a team of 19 mentors to provide academic support to 120 students
INTERESTS	Running (3 10K Marathons, 2 Half Marathon), Traveling (3 continents, 20+ countries), Cricket, Biking, Music
REFERENCES	<p>Tristan van Leeuwen Assistant Professor, Utrecht University</p> <p>Wim A. Mulder Professor, TU Delft Researcher, Shell Global.</p> <p>Hassan Mansour Research Scientist, MERL</p> <p>Aleksandr Aravkin Assistant Professor, University of Washington</p>