Linh N. N. Le

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EDUCATION

University of California, Davis — Davis, CA, USA
Ph.D. Biomedical Engineering, GPA: 3.93 — Expected June 2026
Dissertation: *"Functional and anatomical quantitative imaging for aging and dementia"*

University of California, San Diego — San Diego, CA, USA
B.S., Bioengineering — June 2019

ACADEMIC EXPERIENCE

University of California, Davis, — Davis, CA, USA
Graduate Student Researcher | Advisor: Dr. Audrey Fan — Sep 2020 – Present

- Developed a novel Bayesian framework for quantitative BOLD MRI to non-invasively quantify brain oxygen extraction fraction (OEF) in older adults, revealing physiological alterations associated with cognitive impairment and aging.
- Designed and implemented multimodal imaging approaches to predict future cortical atrophy from baseline MRI and integrated normative modeling to characterize individual deviations, enabling the study of heterogeneity in brain aging and Alzheimer's disease progression.
- Collaborated with researchers across three universities and interdisciplinary teams to create reproducible workflows and publish results in peer-reviewed publications.
- Mentored undergraduate researchers, guiding data analysis, experimental design, and visualization best practices.
  Skills: Python, MATLAB, R, FSL, Machine Learning, Pytorch, Tensorflow, Image Processing, Image acquisition, MRI, Monte Carlo, Bash, FreeSurfer, Statistical Analysis, Leadership, Mentorship, Scientific Writing, Communication

UCSD Institute of Neural Computation - Computational Neurology Center — San Diego, CA, USA
Undergraduate Researcher | Advisor: Dr. David Peterson — Jul 2018 - Jan 2020

- Evaluated computer vision methods for quantifying dystonia severity using OpenFace and MATLAB
- Conducted head tremor analysis with video-based motion tracking algorithms
  Skills: MATLAB, Neuroscience, Computer Vision, Data Analysis, Clinical research, Signal processing

University of California, San Diego — San Diego, CA, USA
Data Science Research Intern | Advisor: Dr. Ben Croker — Jul 2019 - Oct 2019

- Developed and deployed a computational pipeline to quantify cellular state transitions from cell image datasets.
- Created and optimized an interactive R application to monitor and visualize cell death progression from large-scale microscopy data.
  Skills: R Shiny, R, Data analysis, Data visualization, Teamwork

University of California, San Diego — San Diego, CA, USA
Bioengineering Research Assistant | Advisor: Dr. Pedro Cabrales — Jul 2017 - Jun 2019

- Designed an application for iPhone users to control eating behavior by Swift and created a database to store users' information for further investigations
  Skills: Swift, App development, Research, Data analysis, Teamwork

PROFESSIONAL EXPERIENCE

Cortechs.ai — San Diego, CA, USA
Neuroanatomy Imaging Specialist — Sep 2019 - Sep 2020

Neuroanatomy Associate Nov 2018 - Sep 2019
Neuroanatomy Imaging Intern Apr 2018 - Nov 2018

- Processed and analyzed volumetric MRI datasets, optimizing segmentation algorithms and applying image processing and machine learning techniques to generate reliable quantitative metrics.
- Contributed to neurodegenerative disease biomarker research, supporting conference publications.
- Developed pipelines for large-scale MRI data analysis, improving reproducibility and efficiency of research workflows across clinical datasets.
  Skills: Python, MATLAB, R, Unix/Linux, Shell scripting, R&D, Image Segmentation, Data analysis, Machine learning, Image processing, AWS, Teamwork, Leadership

TEACHING EXPERIENCE

University of California, Davis Davis, CA, USA
Teaching Assistant | Department of Biomedical Engineering | BIM 289B, Neuroimaging Jan 2022 - Mar 2022

- Led weekly office hours for a graduate-level course that described advanced MRI and PET neuroimaging methods and their derived biomarkers.
- Participated in developing curriculum, preparing lecture and lab materials.
- Guided teams of students on their projects, which involved medical image processing and peer-reviewed research journals.

Grossmont College San Diego, CA, USA
Mathematics Tutor Oct 2014 - Jun 2016

UNDERGRADUATE MENTORSHIP

Years	*Name*	*Project*	*Current Position*
2023-2025	Poorvi Daga	Characterized cerebral blood flow and oxygen extraction fraction in older adults using arterial spin labeling and quantitative BOLD modeling	Product Development Intern, Genentech
2023-present	Barah Albuhwailah	Developed quality control pipeline for multi-modal imaging from Alzheimer's Disease Neuroimaging Initiative (ADNI) dataset	Undergraduate student, UC Davis
2021-2023	Anahita Tavakoli	Improved quantification of brain hemodynamics from linear model of quantitative BOLD model using mean square error	Master's student with Dr. Guobao Wang, UC Davis

FELLOWSHIP & AWARDS

2023	Biomedical Engineering Graduate Group (BMEGG) Travel Award, UC Davis
2022	Translational Health Data Science Fellowship
2021-2023	ISMRM Travel Stipend Award
2017-2018	University of California, San Diego Provost Honors

SERVICE AND AFFILIATIONS

2023	E-SEA*R*CH Mentor, College of Engineering, UC Davis
2021-2024	Member, International Society for Magnetic Resonance in Medicine (ISMRM)
2021-2025	Member, The Alzheimer's Association International Society to Advance Alzheimer's Research and Treatment (ISTAART)
2021-2022	Admission Committee, Biomedical Engineering Graduate Group, UC Davis
2020-2021	Graduate Student Representative (GSA), Biomedical Engineering Student Association (BESA)

2018 Transfer Prep Program Leader, IDEA Engineering Student Center, UC San Diego
2017-2018 Peer mentor, IDEA Engineering Student Center, UC San Diego

PEER-REVIEWED PUBLICATION

Le L, Fletcher E, Tosun D, Qi J, Fan A. Identification of abnormal brain atrophy in Alzheimer's Disease using deep learning-based MRI. [Under preparation, *IEEE*]

Le L, Wheeler G, Blockley N, Fletcher E, Jung Y, Farias S, Gavett B, DeCarli C, Fan A. Oxygen extraction fraction mapping between normal cognition and mild cognitive impairment in an elderly cohort using quantitative BOLD. [Under review, *Imaging Neuroscience*]

Le L, Wheeler G, Holy E, Donnay C, Blockley N, Yee A, Ng K, Fan A. Cortical oxygen extraction fraction using quantitative BOLD MRI and cerebral blood flow during vasodilation. *Frontiers in Physiology* **14**, (2023)

Vu JP, Cisneros E, Lee HY, **Le L**, et al. Head tremor in cervical dystonia: Quantifying severity with computer vision. *Journal of the Neurological Sciences* **434**, 120154 (2022)

Zhu Y, Shamie I, Lee J, Nowell C, Peng W, Angulo S, **Le L**, et al. Immune response to intravenous immunoglobulin in patients with Kaweasaki disease and MIS-C. *JCI* **131**, 20 (2021)

SELECTED CONFERENCE PAPERS

Le L, Fletcher E, Tosun D, Qi J, Fan A. *Identifying abnormal brain atrophy in Alzheimer's Disease using deep learning-based MRI*. Alzheimer's Dement. 2025. Notes: Poster Presentation

Lin CT, **Le L**, Christen T, Fan A. *Deep learning-based MR vascular fingerprinting for dynamic quantification of cerebral hemodynamics during gas challenges.* Proceedings of the ISMRM 2025. Notes: Poster Presentations

Le L, Fletcher E, Qi J, Fan A. *Deep learning-based estimation of future brain atrophy using baseline MRI and PET*. Proceedings of the ISMRM 2024. Notes: Poster Presentation

Le L, Wheeler G, Fletcher E, Blockley N, Fan A. *Oxygen Extraction mapping between normal cognition and mild cognitive impairment in an elderly cohort using quantitative BOLD*. Alzheimer's Dement. 2023. Notes: Poster Presentation

Le L, Wheeler G, Fletcher E, Blockley N, Fan A. *Oxygen Extraction mapping between normal cognition and mild cognitive impairment in an elderly cohort using quantitative BOLD*. Proceedings of the ISMRM 2023. Notes: Oral Presentation

Le L, Wheeler G, Blockley N, Fan A. *Quantitative BOLD with Variational Bayesian inference: model comparisons with Monte Carlo simulations and in an elderly cohort*. Proceedings of the ISMRM 2023. Notes: Poster Presentation

Wheeler G, **Le L,** Lee Q, Fan A. *Optimizing an accelerated spin and Gradient Echo Sequence for dynamic MR vascular fingerprinting*. Proceedings of the ISMRM 2023. Notes: Oral Presentation

Le L, Qi J, Fan A. *Predicting atrophy maps for early detection of Alzheimer's Disease using deep learning with unimodal imaging.* THDS Summer Symposium, 2022; Virtual Symposium. Notes: Oral Presentation

Tavakoli A, **Le L**, Wheeler G, Fan A. *Measuring Brain Hemodynamics with Quantitative BOLD imaging: Accuracy and Mean Squared Error.* Biomedical Engineering Society (BMES) Annual Meeting 2022. Notes: Poster Presentation *Student Mentee

Le L, Wheeler G, Momjian A, Donnay C, Blockley N, Fan A. *Oxygen Extraction Fraction using Quantitative BOLD and Cerebral Blood Flow during Vasodilation*. Proceedings of the ISMRM 2022. Notes: Poster Presentation

Le L, Wheeler G, Christen T, Zaharchuk G, Fan A. *Comparison of Quantitative BOLD and Vascular MRF for Mapping Brain Oxygenation.* Proceedings of the ISMRM 2022. Notes: Poster Presentation

Pajouhesh P, Lee Q, **Le L**, Maillard P, Fan A. *Identifying effects of tract-specific white matter hyperintensity burden on functional connectivity*. OHBM 2022. Notes: Poster Presentation

Le L, Wheeler G, Fan A. *Brain Oxygen Extraction Measurement during Hypercapnia and Hypoxia using Quantitative BOLD MRI.* Presented at BMEGG Symposium, University of California, Davis; May 2021. Notes: Poster Presentation

Vu J, **Le L**, Guo X, Rouzbehani R, Sy D, Elble R, Stebbins G, Comella C, Peterson D. *Video-based computer ision system exhibits concurrent validity with clinical ratings of head tremor severity in cervical dystonia: 1439*. Movement Disorders. 2020. Notes: Poster Presentation

Luo W, Ulug A, Magda S, **Le L**, Haxton R, Melton R, Miao Y, Airriess C. *Decision support models for Alzheimer's disease and mild cognitive impairment classification based on features extracted from MRI and FDG PET.* Alzheimer's Dement. 2020. Notes: Poster Presentation

Luo W, **Le L**, Ulug A, Mazhari A, Pinter N, Magda S, Haxton R, Melton R, Airriess C. *Performance Evaluation for Multiple Sclerosis Identification Models Based on MR Imaging and Machine Learning*. ACTRIMS 2020. Notes: Poster Presentation

Luo W, Mazhari A, Ulug A, Pinter N, **Le L**, Haxton R, Magda S, Kjonigsen L, and Airriess C. *A Statistical Reference Percentile Chart for Evaluating Brain Atrophy in Multiple Sclerosis.* ECTRIMS 2019. Notes: Poster Presentation

INVITED TALKS

Quantitative functional and anatomical imaging in aging and dementia. National Institute of Aging (NIA) / National Institute of Health (NIH), July 21st, 2025 (Virtual).

Identifying abnormal brain atrophy in Alzheimer's Disease using deep learning-based MRI. UC Davis BMEGG Symposium, May 30th, 2025.

Quantitative BOLD Modeling of Brain Oxygenation During Vasodilation. ISMRM-endorsed Workshop on MRI Acquisition & Reconstruction; September 9, 2021 (Virtual).

Dynamic Vascular Magnetic Resonance Fingerprinting of Cerebral Physiology. ISMRM-endorsed Workshop on MRI Acquisition & Reconstruction; September 9, 2021 (Virtual).

REFERENCES

Dr. Audrey Fan, University of California, Davis, CA, USA [Major Advisor]
apfan@health.ucdavis.edu

Dr. Evan Fletcher, University of California, Davis, CA, USA [Project Scientist, Collaborator]
emfletcher@ucdavis.edu

Dr. Duygu Tosun-Turgut, University of California, San Francisco, CA, USA [PhD Thesis Committee Member]
duygu.tosun@ucsf.edu