Linh N. N. Le

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Department of Biomedical Engineering, University of California, Davis

EDUCATION

University of California, Davis — Davis, California, USA

Ph.D., Biomedical Engineering, — Expected Jun 2025

- Research Interests: Deep learning for advanced imaging to improve diagnosis of Alzheimer's Disease

University of California, San Diego — San Diego, California, USA

B.S., Bioengineering — June 2019

HONORS AND AWARDS

Translational Health Data Science Fellowship	2022
ISMRM New Entrant Stipend Award	2021-2022
University of California, San Diego Provost Honors	2017-2018
Phi Beta Kappa Society	2016

ACADEMIC EXPERIENCE

University of California, Davis, Davis, California, USA — Sep 2020 – present

Graduate Student Researcher; Advisor: Dr. Audrey Fan

PhD. Thesis: *"Functional and anatomical quantitative imaging for aging and dementia"*

- Analyzing and evaluating quantitative BOLD modeling of functional signals
- Applying advanced machine learning approaches to better understand physiological and structural contributions to neurodegeneration (e.g., Alzheimer's Disease)
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Salk Institute of Biological Science - Computational Neurology Lab, San Diego

UCSD Institute of Neural Computation - Computational Neurology Center, **San Diego**

Undergraduate Research Assistant; Advisor: Dr. David Peterson — Jul 2018 - Jan 2020

- Analyzed and evaluated computerized methods of dystonia severity evaluation using OpenFace, and MATLAB
- Assessed head tremor with computer vision
- Reviewed patients' videos for protocol compliance
- Annotated essential tremor patients' video for downstream analysis

University of California, San Diego, San Diego, California USA

Data Science Research Intern; Advisor: Dr. Ben Croker — Jul 2019 - Oct 2019

- Examined the state of cell by creating a computational method to quantify the transition of cells
- Developed an interactive app to track the cell death progress based on cell images dataset in R

University of California, San Diego, San Diego, California USA

Bioengineering Research Assistant; Advisor: Dr. Pedro Cabrales — Jul 2017 - Jun 2019

- Studied about satiety mechanism to improve the diet habit by adjusting the eating speed
- Examined the dataset of patients and background of obesity and overweight to analyze recorded data of 30 participants by MATLAB toolbox
- Designed an application for iPhone users to control eating behavior by Swift and created a database to store users' information for further investigations

PROFESSIONAL EXPERIENCE

Cortechs.ai, San Diego, California USA

Neuroanatomy Imaging Specialist Sep 2019 - Sep 2020
Neuroanatomy Associate Nov 2018 - Sep 2019
Neuroanatomy Imaging Intern Apr 2018 - Nov 2018

- Analyzed and evaluated volumetric MRI brain images and performed subcortical segmentation using MATLAB to improve the algorithm
- Applied image processing techniques for image analysis such as image segmentation and morphological filtering technique to remove noise and enhance the MRI brain images for better quantitative results
- Used statistical methods to validate the results of gradient correction of the MRI brain images
- Examined the changes of structural volumes of patients and comparing with normative dataset
- Conducted research about brain atrophy by using automated segmentation data

PUBLICATION

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, 2022; 434

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, 2021;131(20)

PRESENTATIONS

Le L, Wheeler G, Momjian A, Donnay C, Blockley N, Fan A. *Oxygen Extraction Fraction using Quantitative BOLD and Cerebral Blood Flow during Vasodilation*. Presented at ISMRM; May 2022. London, UK.

Le L, Wheeler G, Christen T, Zaharchuk G, Fan A. *Comparison of Quantitative BOLD and Vascular MRF for Mapping Brain Oxygenation.* Presented at ISMRM; May 2022. London, UK.

Wheeler G, **Le L**, Fan A. *Dynamic Vascular Magnetic Resonance Fingerprinting of Cerebral Physiology*. Presented at ISMRM-endorsed Workshop on MRI Acquisition & Reconstruction; September 9, 2021; Virtual conference.

Le L, Wheeler G, Fan A. *Quantitative BOLD Modeling of Brain Oxygenation During Vasodilation*. Presented at ISMRM-endorsed Workshop on MRI Acquisition & Reconstruction; September 9, 2021; Virtual Conference.

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.

CONFERENCE ABSTRACT

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

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; Feb 2020

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 Sept 11-13; Stockholm, Sweden.

TEACHING EXPERIENCE

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

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

SERVICE AND AFFILIATIONS

- Member, The Alzheimer's Association International Society to Advance Alzheimer's Research and Treatment (ISTAART) (2021-2022)
- Member, International Society for Magnetic Resonance in Medicine (ISMRM) (2021-2022)
- Admission Committee, Biomedical Engineering Graduate Group, UC Davis (2021)
- Graduate Student Representative (GSA), Biomedical Engineering Student Association (BESA), UC Davis (2020-2021)
- Transfer Prep Program Leader, IDEA Engineering Student Center, UC San Diego (2018)
- Peer mentor, IDEA Engineering Student Center, UC San Diego (2017-2018)

SKILL

- Technical skills: Python, MATLAB, Java, R
- Deep learning: keras-CNN, Pytorch, TensorFlow
- Imaging Software: FSL
- Computer aided design/engineering: AutoCAD, 3D Printing
- Unix/Linux, Windows

REFERENCES

Professor Audrey P. Fan
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Davis, CA 95618
530-754-0806
apfan@ucdavis.edu

Professor Jinyi Qi
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Dr. David A. Peterson
Computational Neurobiology Laboratory,
Sal Institute for Biological Studies
La Jolla, CA 92093
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