# RUOHAN LIU

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# EDUCATION

# OXFORD UNIVERSITY Oxford-UK

# *Master of Research MRes Clinical Neurosciences// Supervised by Pr Ben Seymour & Tim Denison* 2023-Present

# Under the division of Nuffield Clinical Neurosciences (NDCN) and Institute of Biomedical engineering (IBME)

# Project design using neuroimaging studies on the prevention of sport injury through examination of mental toughness and ‘effort-reward paradox’

# MASSACHUSETTS INSTITUTE OF TECHNOLOGY Boston, US

*Visiting student in Department of Brain and Cognitive sciences****//*** *Supervised by Pr James di Carlo*Present

# Studying object recognition in macaques using deep brain stimulation in the inferior temporal cortex

**UNIVERSITY COLLEGE LONDON** London-UK

*Bachelor of Science With Honours, BSC Biomedical Science // Supervised by Pr Patrick Haggard* 2020 - 2023

* Concentration: Neuroscience (Computational and Cognition)
* Relevant courses: Pharmacology, Neural Computation, System Neuroscience, Cognitive Neuroscience, Human Neuroanatomy, Biochemistry, Biophysics

**GATSBY CENTRE OF COMPUTATIONAL NEUROSCIENCES** London -UK

*Summer Bridging Programme on Maths for Theoretical neurosciences* 2023

* Full time summer course exploring three general math’s topics: Linear Algebra, Calculus, Probability
* Coding workshops and tutorials to apply this knowledge into context of machine learning, neural networks, etc

**BRITISH COUNCIL SCHOOL OF MADRID** Madrid, Spain

*Spanish Baccalaureate (Evau) 12.9/14* 2014 - 2020

Highschool

* Relevant classes: Physics, Chemistry, Biology, Maths, Psychology

# RESEARCH EXPERIENCE

**INSTITUTE OF COGNITIVE NEUROSCIENCE UCL, PATRICK HAGGARD RESEARCH LAB** London, United Kingdom

***Internship/Last Year Project*** January 2022 – June 2023

* Performed EEG set up and testing to measure readiness potential
* Preprocessed and analysed EEG data using MATLAB toolbox
* Experienced with participant recruitment platform Sona
* Managed Psych toolbox in MATLAB to create stimuli for study

**MAX-PLANCK INSTITUTE OF REGENERATIVE MEDICINE GUANGZHOU** GuangZhou, China

***Internship*** August 2021 – October 2021

* Culturing of Liver stem cells using EGF, PDGF, IGF-1 and utilization of light microscopy to record progress HLSCs regeneration after hepatic injury in vitro
* Performance of Western Blot to identify proteins expressed by each type of embryonic liver stem cell to interpret which is crucial for proliferation
* Identification of mRNA responsible for transcription in HLSCs using microarray analysis
* Obtained mice testing permit to investigate differentiation patterns of embryonic human liver stem cells in immunodeficient mice models in vivo
* Application of previous knowledge on deep learning MATLAB models to accelerate identification of carcinoma cells from microscope images

# WORK EXPERIENCE

**SIEMENS HEATHINEERS MAGNETIC RESONANCE SHENZHEN** ShenZhen, China

***Internship*** June 2021 – August 2021

* Aided fMRI scanning of participants of heart and brain. Training of independent usage of fMRI
* Visualizing whole manufacturing process of a fMRI scan better helped understand physics background of fMRI
* Identification of individual spike artifacts to further isolate and study
* Pre-processing of fMRI data before visualization, including slice time correction and fitting model assumptions using MATLAB

**REMOTE PRODUCT MANAGING INTERNSHIP TENCENT** ShenZhen, China

***Internship*** January 2021 - December 2021

* Managed a newly launched Dancing App with the purpose of improving wellbeing and fitness of people during quarantine
* Organized weekly group meetings regarding the feedback questionnaires
* Conjured up improvement methodologies of the product based on customer feedback and product development department tangibility
* Conduct market research and compare existing advantages of our product in the market
* Leader of group to put forward our marketing strategy in meetings

# LEADERSHIP

**STUDENT REPRESENTATIVE OF BIOMEDICAL SCIENCE (UCL)**January 2021 - December 2022

* Bridge of communication between students and module, course, and department professors
* Recruitment and anonymization of feedback for modules and exam organizations to aid improvement and raise concerns.
* Represent student community on how department finance should be distributed to enhance well-being among students

**HUAWEI STUDENT AMBASSADOR (HSD)** London, United Kingdom

***Student Ambassador*** January 2021 - December 2022

* Organized technology and coding events for students at UCL
* Networking events, research competitions advertisement and career fairs

**HARVARD COLLEGE ASSOCIATION LEADERS FOR US-CHINA RELATIONS** HangZhou, China

***Teaching Assistant*** January 2021 - December 2021

* Organization of two modules: Introduction to Molecular Biology & Machine Learning
* Succeeded in advising high school students and inspiring on future college choices
* Full responsibility on class schedule of students and lecturers for 2 weeks as well as leisure activity
* Increased online lecture participation by introducing special awards based on participation

**BIOBOAT** Online platform

***Editorial Department Leader*** January 2021 - December 2021

* BioBoat Community Leader
* Co-founder of editorial department of BioBoat platform (responsible for intercommunications between laboratories/companies and Biology related major students)
* Created internship information for subscribers and non-professional articles based on research novelties to a wider public.
* Content has spurred a growth of subscribers from last year ranging a large diversity of biology student community all over the world

# VOLUNTEERING

**RUMANIA DISABLED CHILDREN'S ORPHANAGE (HOUSE OF ANGELS)** Gaesti, Rumania

***Volunteer*** January 2019 - December 2019

* Organized recruitment of donations for children in orphanage
* Developed social events and intellectual challenges for better group cohesion among children with different disabilities

# LANGUAGES AND SKILLS

* Spanish (native) | Chinese(native)| English (C2) |French (Elementary)
* LinkedIn: https://[www.linkedin.com/in/ruohan-liu-b6116a117](http://www.linkedin.com/in/ruohan-liu-b6116a117)
* Coding languages: Matlab, Python, R, SQL
* Useful tools: stata, excel, LaTeX, google collab, EEG setup

# RESEARCH PAPERS/POSTER PRESENTATION

* **Representations, consciousness memory in goal-directed behavior** (***in preparation)*** With poster on same paper London, UK

June 2022 – June 2023

* **Exploring the Effort-Reward Paradox in sports under the experimental paradigm of DOMS model** Oxford, UK

# *Oxford Neuroscience symposium*

# [*Inaugural Annual Conference of the Podium Institute for Sports Medicine & Technology*](https://www.oxforduniversitystores.co.uk/conferences-and-events/engineering-science/events/inaugural-annual-conference-of-the-podium-institute-for-sports-medicine-technology-2024) *2024*