DENIS GRIGORYEV

Czech citizenship | *Settled Status in the UK* | *linkedin.com/in/denisgrigoryev-neurotech*

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Postgraduate Researcher in Prof. Simon Hanslmayr's lab at the University of Glasgow developing a simulation of an electrical microstimulation delivered to human hippocampal neurons in order to support inquiry into neural mechanisms underlying memory and attention (funded by the ERC). Skilled in agile project management and stakeholder communication I have experience supporting software engineering teams from university projects to med-tech start-ups. My greatest passion is developing brain-computer interfaces (BCI's) and investigating how their application can improve patients' wellbeing.

EDUCATION

PhD NEUROSCIENCE and PSYCHOLOGY, Centre for Neurotechnology, *University of Glasgow, UK* **2026 - present**

- PhD thesis "*Modelling and validation of electrical microstimulation towards a hippocampal neural prosthesis for episodic memory*" supervisor Prof. Simon Hanslmayr, co-supervisor Prof. Marcus Kaiser.

MSc NEUROTECHNOLOGY, **Merit**, *Imperial College London, UK* **2022 - 2024**

- MSc thesis "*Towards collision-free movement in arbitrary environments using a Fly-Robot-Interface*"
- Improved a real-time brain-machine interface system by redesigning it, developing efficient system control algorithms in Python and C++, and adapting it to collision-free movement in a tunnel-like experimental arena. As a result, reducing coding and testing time in future research projects by 50% and allowing for greater flexibility in experimental design.
- Prior to experiments, tested the brain-machine interface's spike processing control algorithm by modeling neural signals on another microcontroller and observing the system's output in reaction to them and then validating it against the expected behaviour, allowing me to fine-tune the algorithm and research platform.
- Validated system control architecture by conducting in-vivo electrophysiological experiments - collecting data from the neurons in the insect's visual system using microelectrodes and MATLAB and utilizing them for online biohybrid robot control, demonstrating my ability to learn new skills quickly and successfully apply them in the new setting.
- MSc Computational Neuroscience course - modelled single neurons using integrate-and-fire models and their networks using dynamic systems and various probability distributions. Adapted my knowledge of graph theory in computer networks to neural cell networks and performed extensive graph analysis identifying critical clusters and relationships within a given network.
- MSc Brain-Machine Interfaces course - analysed intracortical neural data, applying Kalman filter, principal component analysis, correlation, and linear regression to estimate subject's limb position in a 2D space.
- Developed solid understanding of medical device certification in the EU and the UK preparing documents for regulatory approval of an implantable medical device by FDA and EU MDR, demonstrating its adherence to ISO 14971 and ISO 13485 standards. Conducted Gap, SWOT, and Risk Management analysis.
- Developed knowledge of neural signal processing algorithms, biological principles, manual testing, soldering, MATLAB, artifacts handling (physiological, power line), and computational neural modeling.

BSc (Hons) COMPUTER SCIENCE, 4.0 GPA, *Queen Mary University London, UK* **2019 - 2022**

- BSc project: performing statistical analysis on EEG brain data.
- Data Science course: identified abnormally active accounts by preprocessing and analysing a large dataset of financial transactions from Ethereum platform using distributed computing, Python, Scala, MapReduce, and Spark where I gained knowledge of operating a computational cluster.
- Operating Systems course: studied and practiced parallel computing, multithreading, and optimisation using Python which will help me develop efficient simulations and algorithms.

WORK EXPERIENCE

Quality Control Lead, Project Executive, *Prose On Pixels, Prague, Czechia and London, UK* **2024 - 2026**

- Coordinated a team of three quality control executives in timely delivery of complex advertising campaigns for major global clients across key industries.
- Managed clearance and delivery process of creative assets in the UK, Ireland, US, and Canada
- Ensured digital media assets meet client briefs, broadcaster specifications, and technical requirements.
- Collaborated with producers, artists, and IT teams to drive innovation in digital communications.

Full-Stack Developer Intern, *NordInsight start-up, Copenhagen, Denmark (remote)* **2024**

- Analysed business needs, conducted SWOT and Gap analysis, and developed a new data model to incorporate them using MongoDB, MongoDB compass, Entity-Relationship Diagrams.
- Implemented a functionality in TypeScript and Node.js allowing radiographers search for implants using the proprietary web application up to 3x times faster thus indirectly improving patients' care.

Product owner & Scrum master, group project, *FDM Group & Queen Mary University, London, UK* **2021**

- Increased client satisfaction with an in-house mentoring programme by interviewing clients, gathering insight, identifying pain points, proposing a technical solution, and delivering an MVP in a team of five.
- Improved technical team's productivity by 20% by eliciting requirements of the technical solution, producing actionable system design specifications, and communicating them effectively to the team.
- Organised daily stand-up meetings to check-in with the team's progress and identify bottlenecks, planned sprints together with team members in accordance with client needs and team's technical ability, maintained a backlog of functionalities, conducted retrospective. Ensured timely shipment of deliverables.
- Co-developed a web app prototype's chat feature in a multi-disciplinary team in React and JavaScript and received a ***prize for the best work out of 23 competing teams***.

Teaching Assistant in Object-Oriented Programming, *Queen Mary University, London, UK* **2021**

- Educated 12 college students on Object-oriented programming (OOP) in Python and Java by explaining complex technical concepts in an easy-to-understand way.
- Performed code review and provided individualised feedback on students' performance in coding exercises.

Lead University Advisor, Junior Advisor, *InvestIN Education, London, UK* **2021**

- Delivered several in-person computer science educational programs for 40 high school students in London supervising a team of 3 junior university advisors.
- Co-organised and co-led a student day trip to Cambridge University overseeing students wellbeing.
- Assisted senior staff in planning and logistical tasks, liaising with speakers and collaborators on-site.

SUPRACURRICULAR

Spring School & Hackathon, **Unity 3D**, G.tec medical engineering, *London (remote)* **2023**

- Designed a graphical brain-machine interface in Unity, leveraging user generated Visual Evoked Potentials (VEP) to control an animated game character in a ***neuroregenerative game*** aimed at improving memory of patients with Parkinson's disease. Developed skills in API integration and Unity 3D game design.

Moderator, NeuroTechX, *London (remote)* **2023**

- Moderated a hybrid global hackathon in neurotechnology NeuroTechX 2023 for 2,000 participants ***link***
- Took responsibility for communicating effectively with guest speakers and keeping the audience engaged throughout the event. Assisted the NeuroTechX London chapter with on-site tasks.

PRIZES & AWARDS

- Department of Bioengineering scholarship, Department of Bioengineering, Imperial College London **2022**
- Best work award - prototype for FDM Group ***link*** **2021**

LANGUAGES: English, Czech, Spanish (B2), German (B2)