

# DIAR ABDLKARIM

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I am a postdoctoral research scientist at the University of Birmingham (UK) currently working on non-invasive brain-computer interface (BCI) systems for decoding naturalistic human movements within an ARIA-funded programme. I use my skills in neural engineering, real-time signal processing, expertise in motion capture and neurophysiology to generate scientific results from first principles.

## EDUCATION

<b>2025-present</b>	ARIA funded postdoctoral fellow in Non-Invasive BCI and naturalistic actions at the University of Birmingham, UK
<b>2022-2025</b>	EPSRC funded postdoctoral fellow at the University of Birmingham, UK
<b>2016-2022</b>	EPSRC funded PhD in computational neuroscience with a focus in sensory-motor control and neuroplasticity through immersive virtual-reality training, University of Birmingham, UK
<b>2013-2014</b>	MSc in Computational Neuroscience and Cognitive Robotics (CNCR) with distinction, University of Birmingham, UK
<b>2009-2012</b>	BSc in Neuroscience. Final year project focus on neuronal information processing in the brain, University of Manchester, UK

## ENTREPRENEURSHIP AND EMPLOYMENT

<b>Jun 2024-Present</b>	<b>Co-Founder and director of Motion Dynamics Ltd (Company No. 15797570)</b> <a href="http://www.motiondynamics.ai">www.motiondynamics.ai</a> I have recently embarked on a journey with the School of Sports, Exercise and Rehabilitation and the School of Computer Science at the University of Birmingham to create a mobile phone-based sports analytics tool combining computer vision with domain knowledge for creating engaging performance feedback. We are currently applying for funding through the Innovate UK scheme, following some success through internal funding and support from the University.
<b>Jun 2021- Jun 2022</b>	<b>Research Scientist at Meta (formerly Facebook) Reality Labs</b> My role involved addressing future directions in research design for novel experimental application using wrist-based haptic feedback. I worked on creating complex immersive virtual simulations to test user performance and behaviour with the presence of real-time haptic stimulation.
<b>Jun 2019-Dec 2019</b>	<b>Research Intern at Meta (formerly Facebook) Reality Labs</b>

I had the opportunity to develop a series of scientific experiments on human embodiment and perception related to novel hand-tracking technologies for understanding user behaviour in a natural context.

## FUNDING

**Nov 2024-2025**      **Innoate UK iCure Explore & Exploit Grant recipient for technology transfer (£50K)**  
I am one of 16 candidates UK wide to be accepted on the iCure program. My role as an entrepreneurial lead is to build relationships with industry and prepare to create a spinout company in support of the university's business and industry engagement strategy.

**Apr 2024-2025**      **Recipient of a Google collaborative grant (£15K) to help develop and test new text entry techniques in extended reality (XR)**  
My work also led an accepted paper for CHI conference 2025.

**Sep 2022-Present**      **Co-application on the accelerator for Adaptive Touch Testing System (£5K, BBSRC IAA)** I developed a mobile, accessible plug-and-play touch-testing system to automate and speed up clinical peripheral neuropathy assessments in hand and fingers.

## ACADEMIC EXPERIENCE

**2025-Present**      **Motion Capture Crash Course:** I created and led a multi-day, hands-on programme for graduates and academics, covering motion-capture setup, processing, and analysis for research, rehabilitation, and HCI. The inaugural cohort trained 18 participants, spurring interdisciplinary collaboration at the University of Birmingham.

**2022-Present**      **XR-Crash Course for Scientists:** I developed and lead a new hands-on, intensive, one-week crash-course for graduates and academics (90+ successful graduates to-date) to gain practical knowledge about immersive extended reality development for scientific studies, University of Birmingham, UK

**2022-Present**      **BhamXR,** I helped setup a collaborative cross-college community interested in working on extended reality applications for research, University of Birmingham, UK

**2018-Present**      **Supervision:** I directly supervised 20+ undergraduate Psychology and CS students and 14+ CNCR, Psychology and CS MSc and 2 PhD students on various XR and mobile related projects, University of Birmingham, UK

## REFERENCES

Prof. Katja Kornysheva (Prof in CHBH on ARIA grant and mentor)  
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Prof. Massimiliano Di Luca (PI on ARME project)  
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