
blinklab

The eyes are a window into your brain

blinklab

Early and accurate diagnosis of autism and ADHD

PRINCETON UNIVERSITY

Introducing a breakthrough AI-powered smartphone platform for neurological testing

ASX:BB1, BlinkLab Ltd, Perth, L4, 216 St George's Tce, WA 6000

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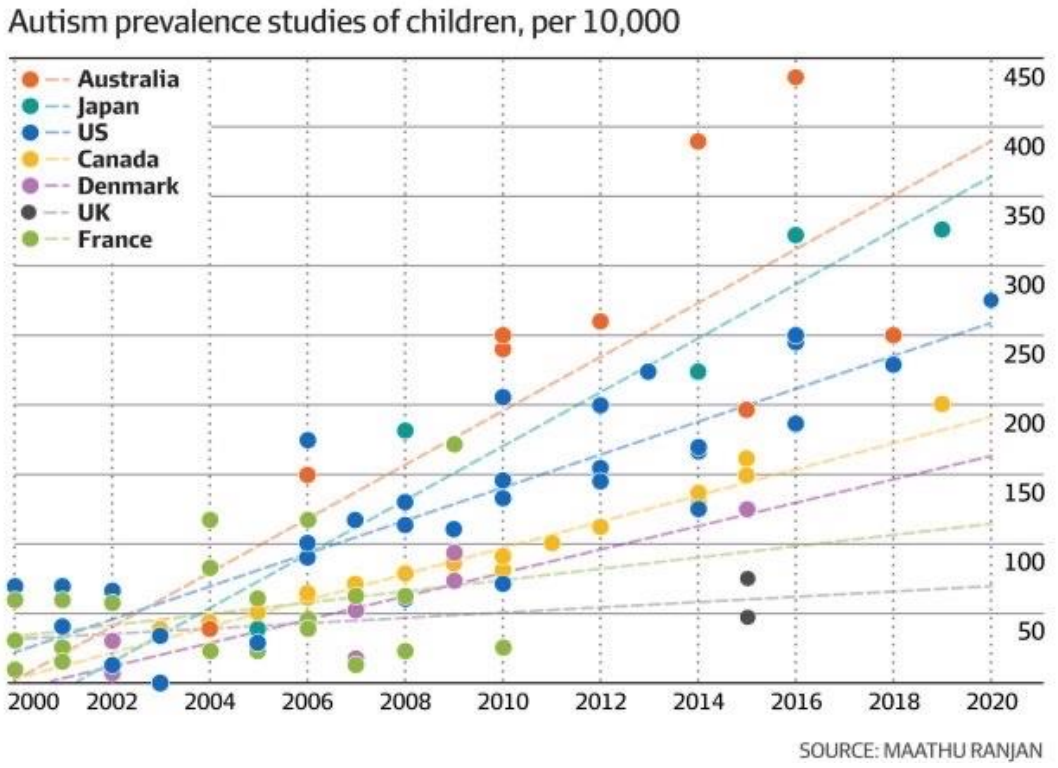
Autism is a $700B market in 2024 in the US alone

"The economic burden is significant and alarming" [1]

- **Autism prevalence has grown to 2-4% among children[2]**
- **Autism healthcare expenses are soaring[3]**
  Costs for an autism diagnostic evaluation: $1,000 to $5,000.
  *Costs of care are around **$60K** annually during childhood[3].*
  *Lifetime cost for individual with ASD: **$3.6M**[3]*
  *35% of NDIS participants have autism accounting for **$6.7B**[4].*
- **No medical autism check available**
  *Autism diagnostic evaluation is **subjective.***



[1] *Leigh and Du (2015), Forecasting the economic burden of autism in 2015 and 2025 in the US, Journal of Autism and Developmental Disorder*
[2] *Center for Disease and Control, World Health Organization*
[3] *Cakir et al. (2020) The lifetime social cost of autism: 1990-2029, Research in Autism Spectrum Disorder*
[4] *National Disability Insurance Scheme (NDIS)*

Autism diagnosis is expensive, inaccurate, and often late

Parental observations

Concerns arise about child's behavior and development.

Autism screening

By primary care physician, who refers to specialist.

12-24 months waitlist

Autism diagnostic evaluation

Formal diagnosis requires input from multiple disciplines, including psychiatry, psychology, audiology, occupational and physical therapists.
Process is complex, expensive and frequently delayed. Current diagnostic tools are subjective.

Diagnosis at age 5-6

Family frustrated by evaluation that took longer than 12 months.

Late intervention

Yielding poor clinical results and leading to high expenses later in life.

Current standard of care leads to poor clinical outcomes and high financial costs.

BlinkLab’s digital solution accelerates path to diagnosis

Parental observations

Concerns arise about child’s behavior and development.

BlinkLab screening

Using our accessible smartphone-based platform.

Diagnostic evaluation

Using biomarkers. Only necessary specialists are consulted.

Autism
Anxiety
ADHD

Diagnosis at age 2-3

Initial diagnosis instantaneously, confirmed in 1-2 months by clinician.

Early and personalized intervention and accurate monitoring

Intervention starts early during brain development, yielding optimal clinical results and leading to significant reduction in costs (40-60%) later in life.

BlinkLab’s smartphone app facilitates early diagnosis, reduces costs, and improves accuracy.


blinklab

Our patented technology: neuroscience on a smartphone

Minuscule facial reflexes, evoked by our app, generate a digital biomarker for autism.

Evokes facial reflexes

By presenting visual and auditory stimuli during smartphone use.

Computer vision

Facial features are tracked on the smartphone and transferred to the **BlinkLab platform**.

Biomarker detection

Biomarkers are detected in **real-time** and made available to the clinician.

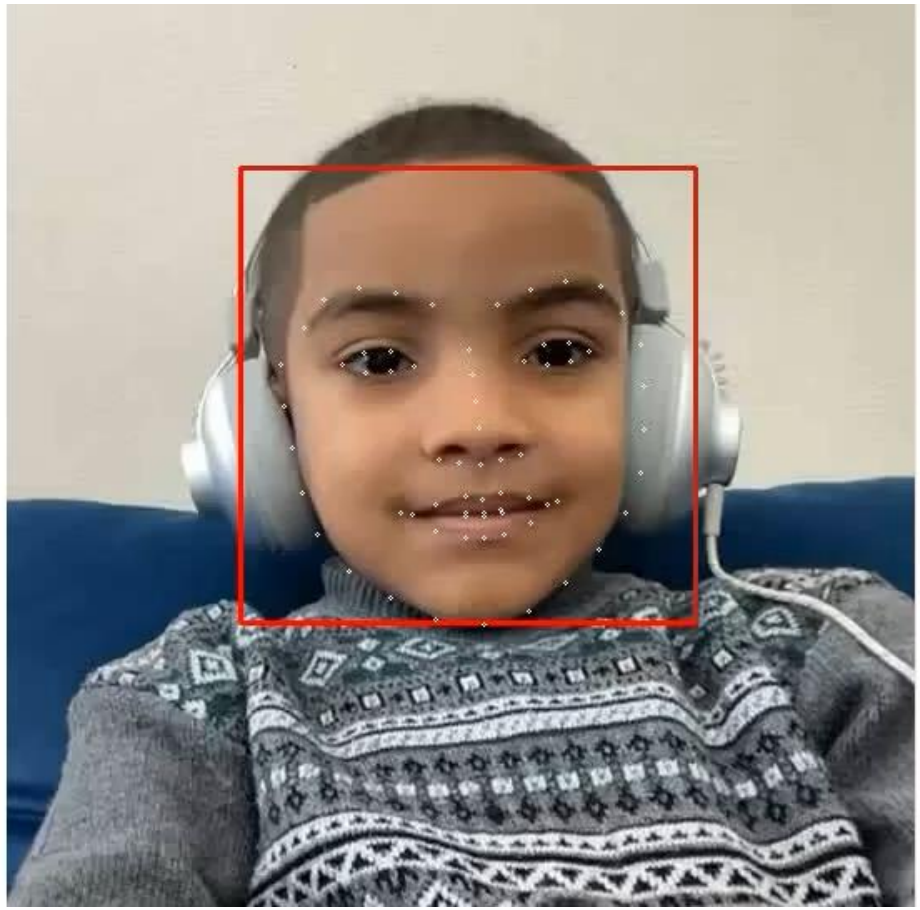
Evaluates brain function

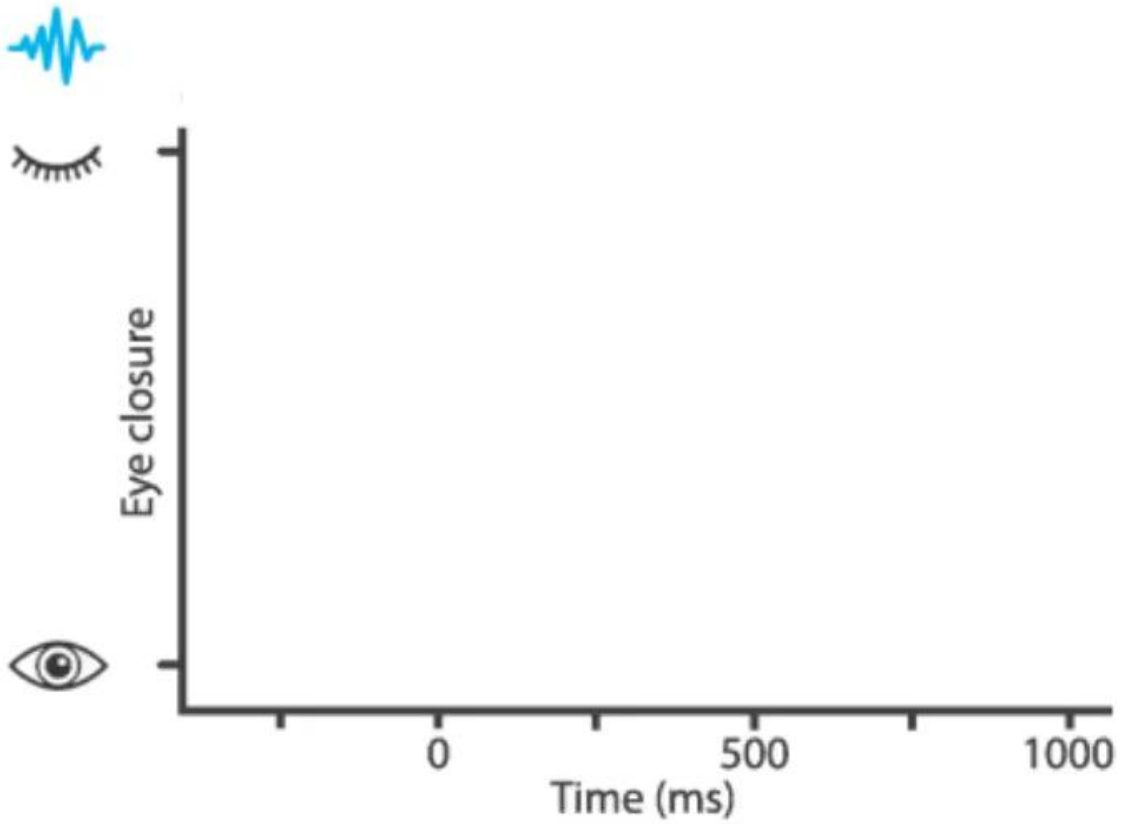
State-of-the art analysis methods and AI modelling to **map the functioning of brain regions involved in autism**.

Patents: PCT/US2021/058698; US 18/036,009; Europe 21892692; Japan 2023-528017; Canada 3,195,596; Korea 10-2023-7018839; Australia 2021378273; US Provisional 63/218,607; 63/460,451; 63/548,542

BlinkLab PPI test – Neurotypical Control (4 years old)

Patent: PCT/US2021/058698





Video used with permission of child and caregiver

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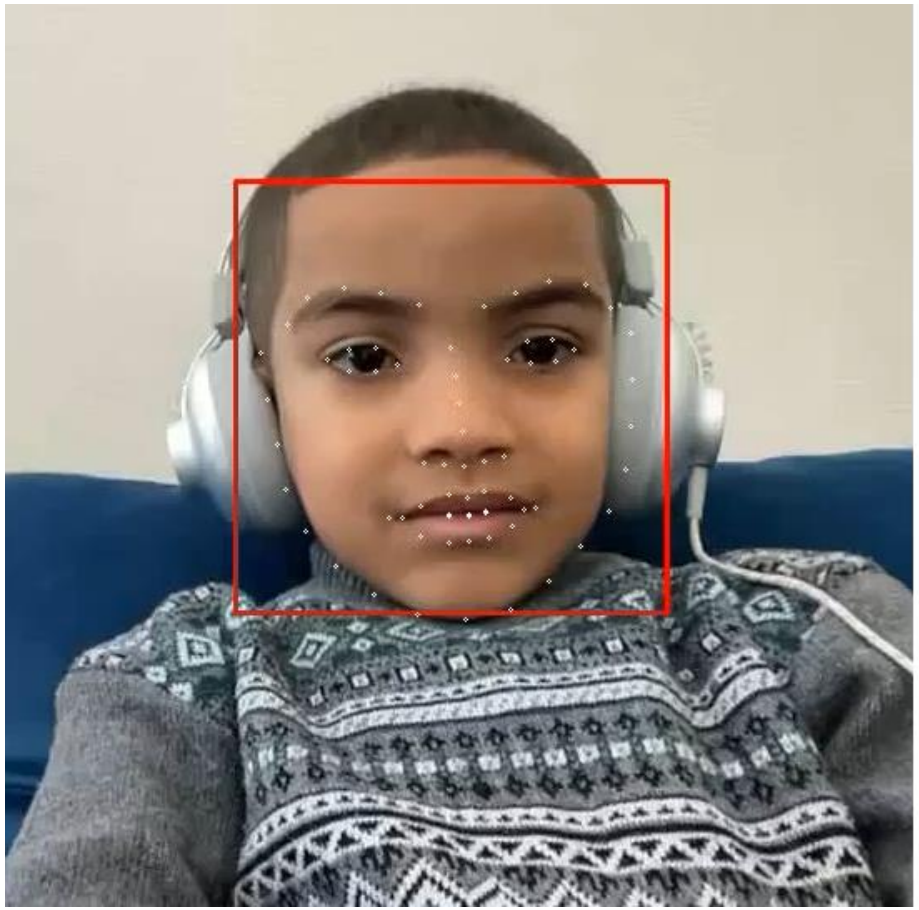

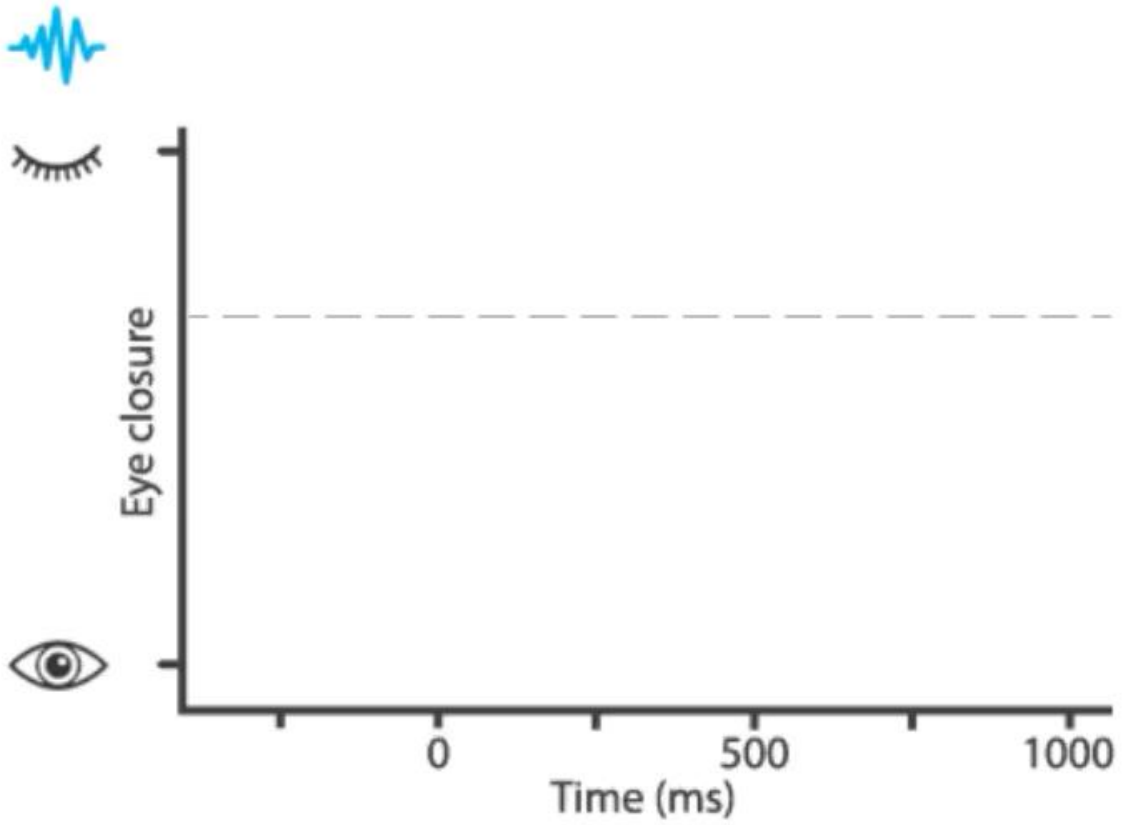

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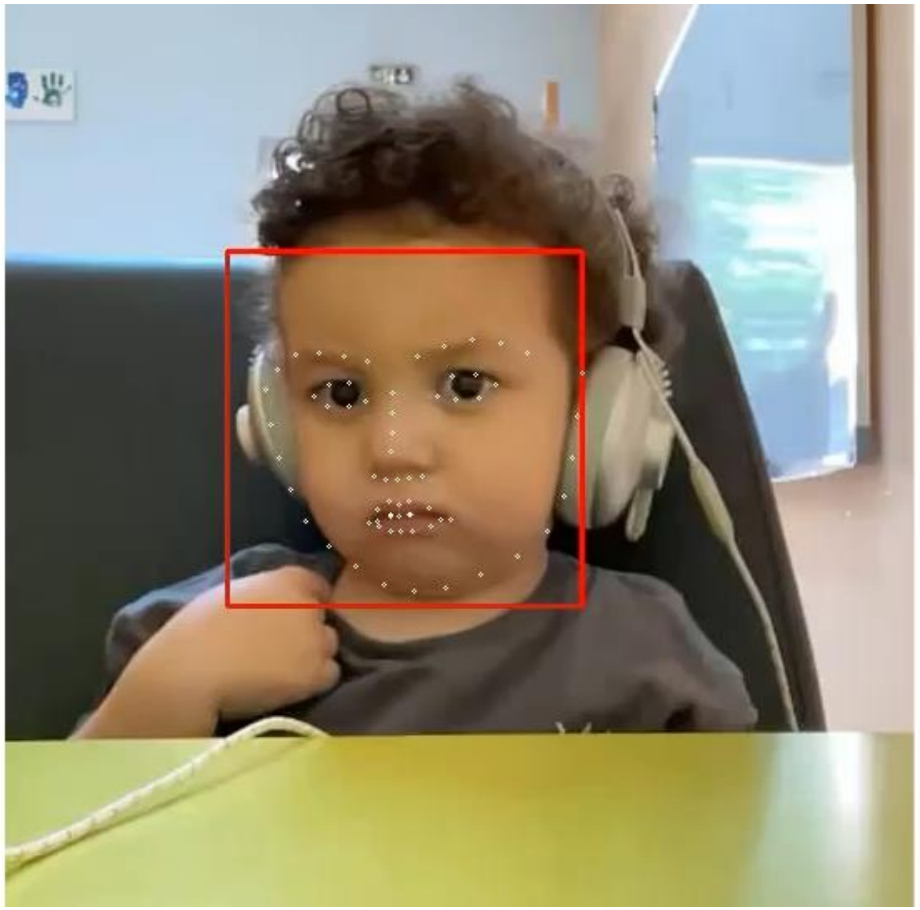
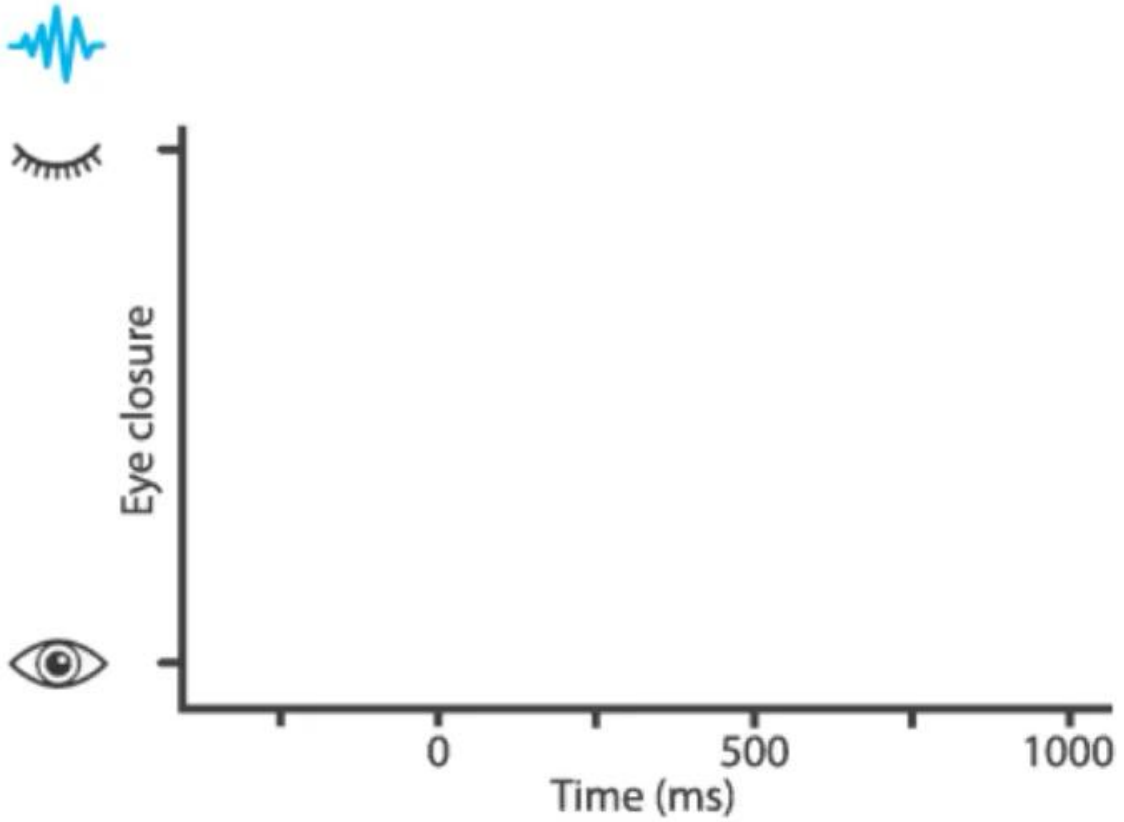
BlinkLab PPI test – Autism Spectrum (2 years old)

Patent: PCT/US2021/058698





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BlinkLab PPI test – Autism Spectrum (2 years old)

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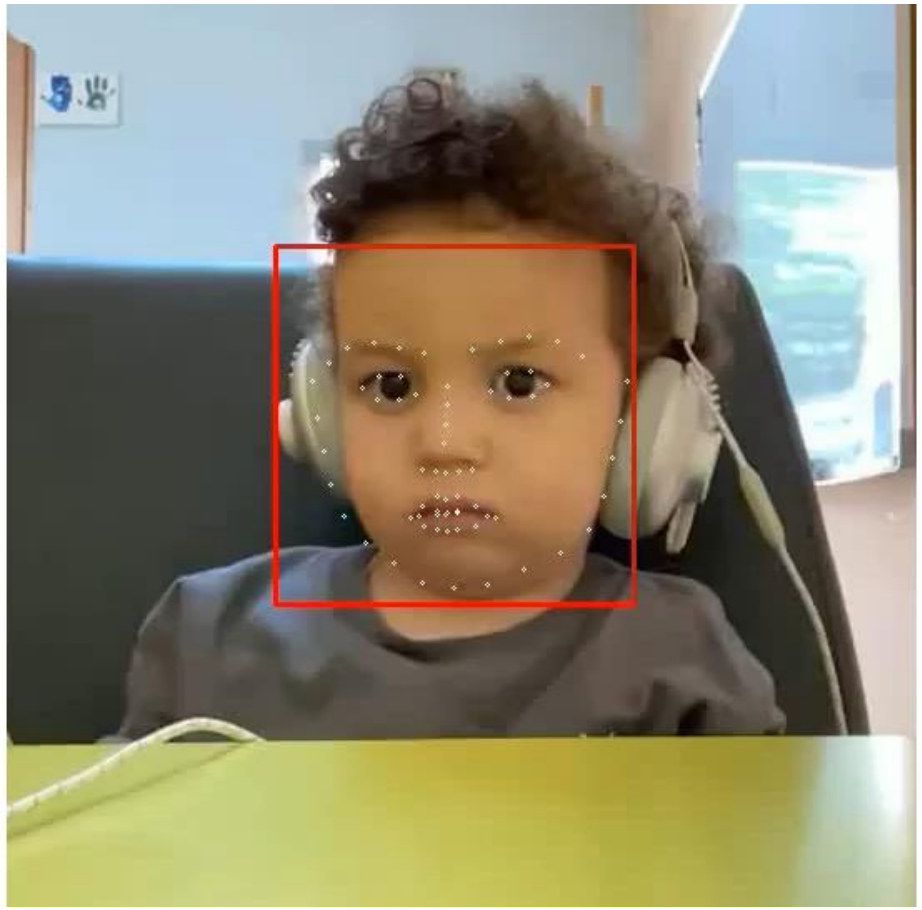

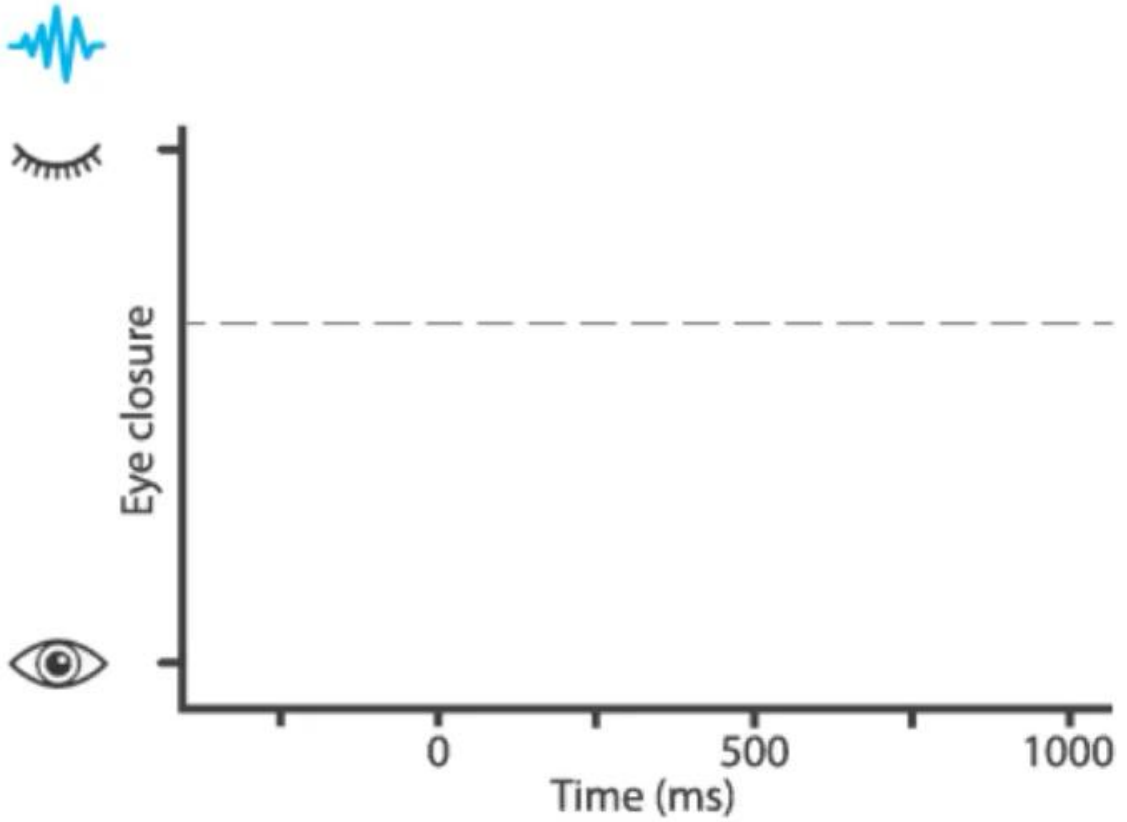

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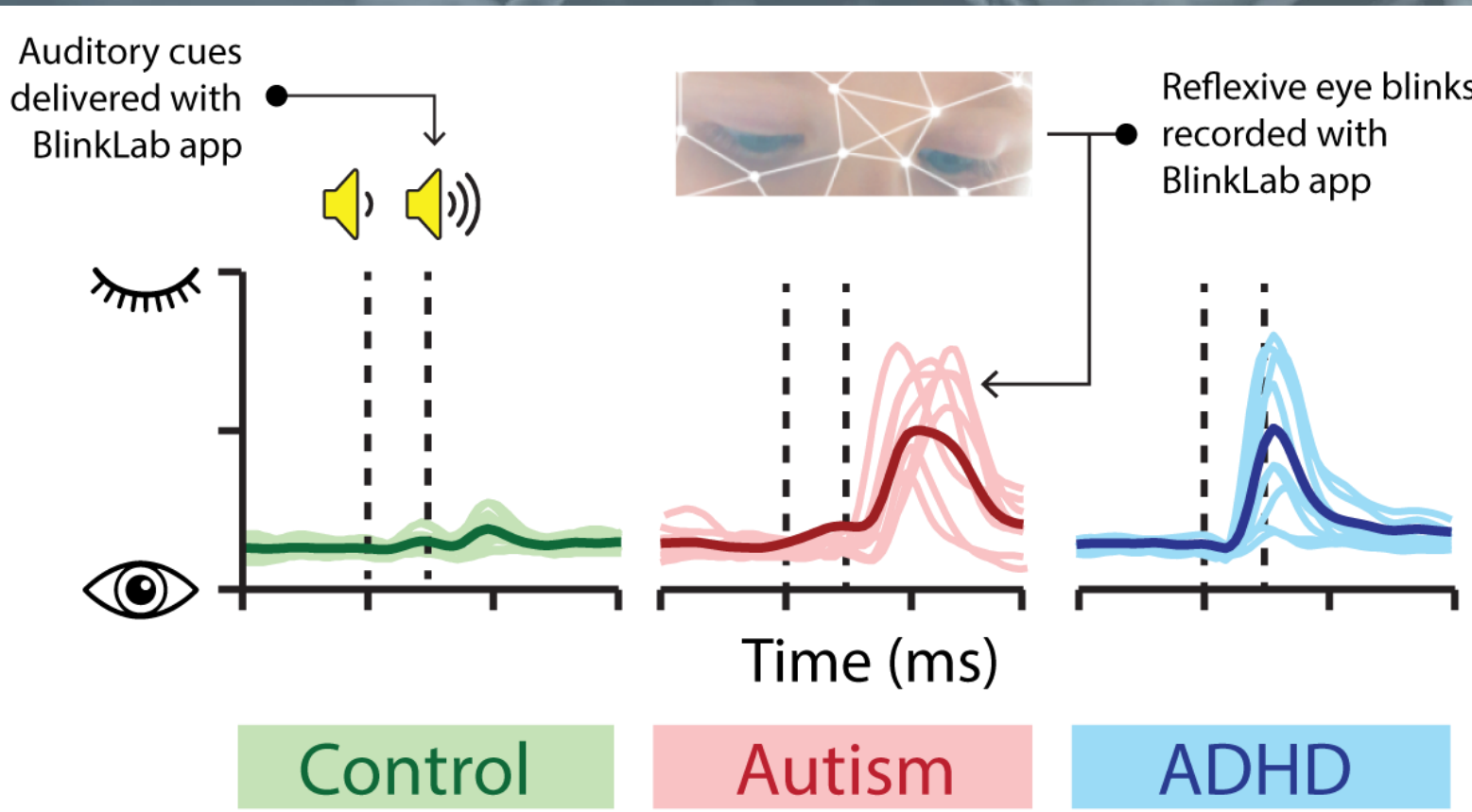
Our AI technology detects autism and ADHD

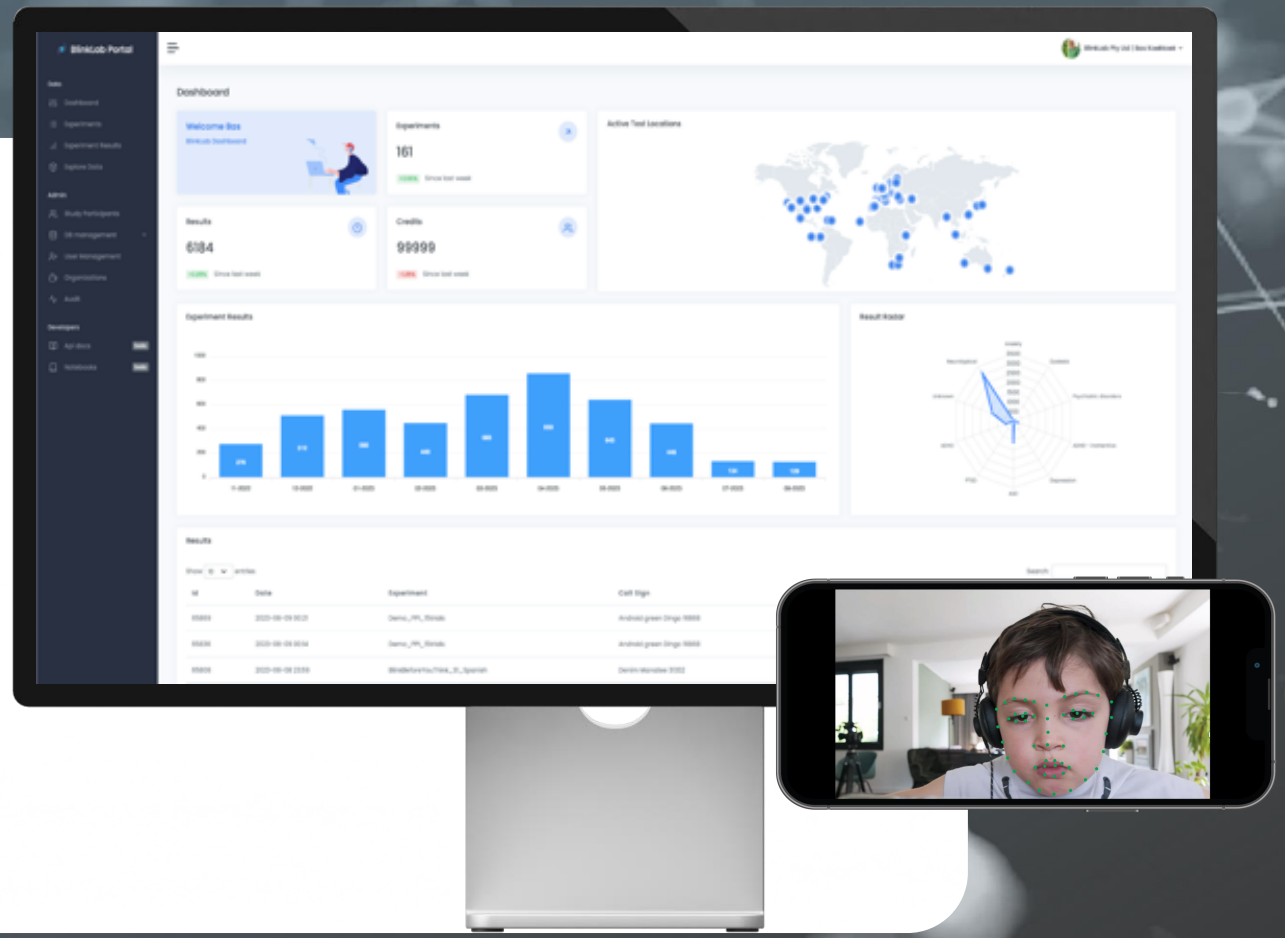


BlinkLab precisely measures sensory sensitivity in people with autism and ADHD.

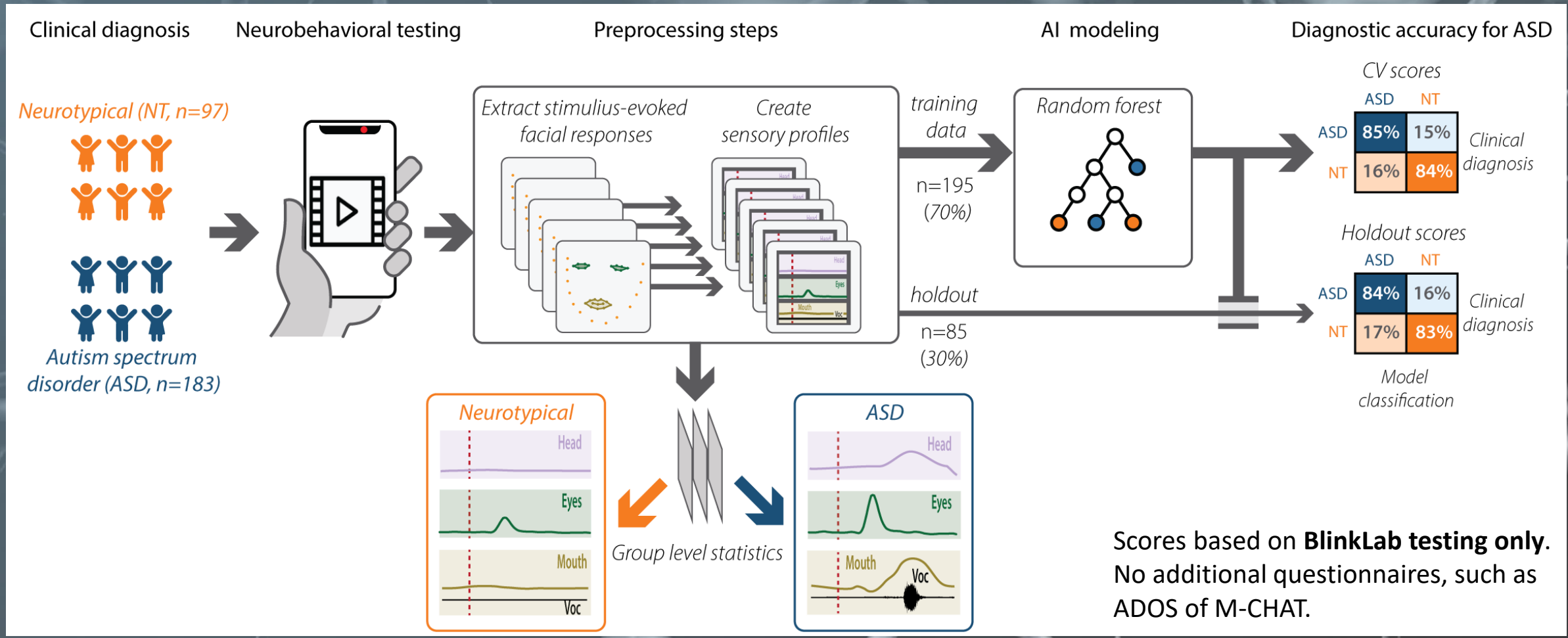
BlinkLab App and Online Portal are fully developed

Validated in >8,000 subjects tested globally, including people with limited access to healthcare.

- **Remote testing**
  Enables accessible and global diagnostics.
- **Scalable solution**
  Easily adaptable for clinical and diverse research needs.
- **Real-time analysis**
  Immediate insights in user tests and biomarker scores.
- **Rapid global adoption**
  Academic and clinical institutes, special schools and, large healthcare providers around the globe already have started implementing BlinkLab.



Breakthrough data from large scale study on diagnostic accuracy of BlinkLab



Scores based on **BlinkLab testing only**. No additional questionnaires, such as ADOS of M-CHAT.

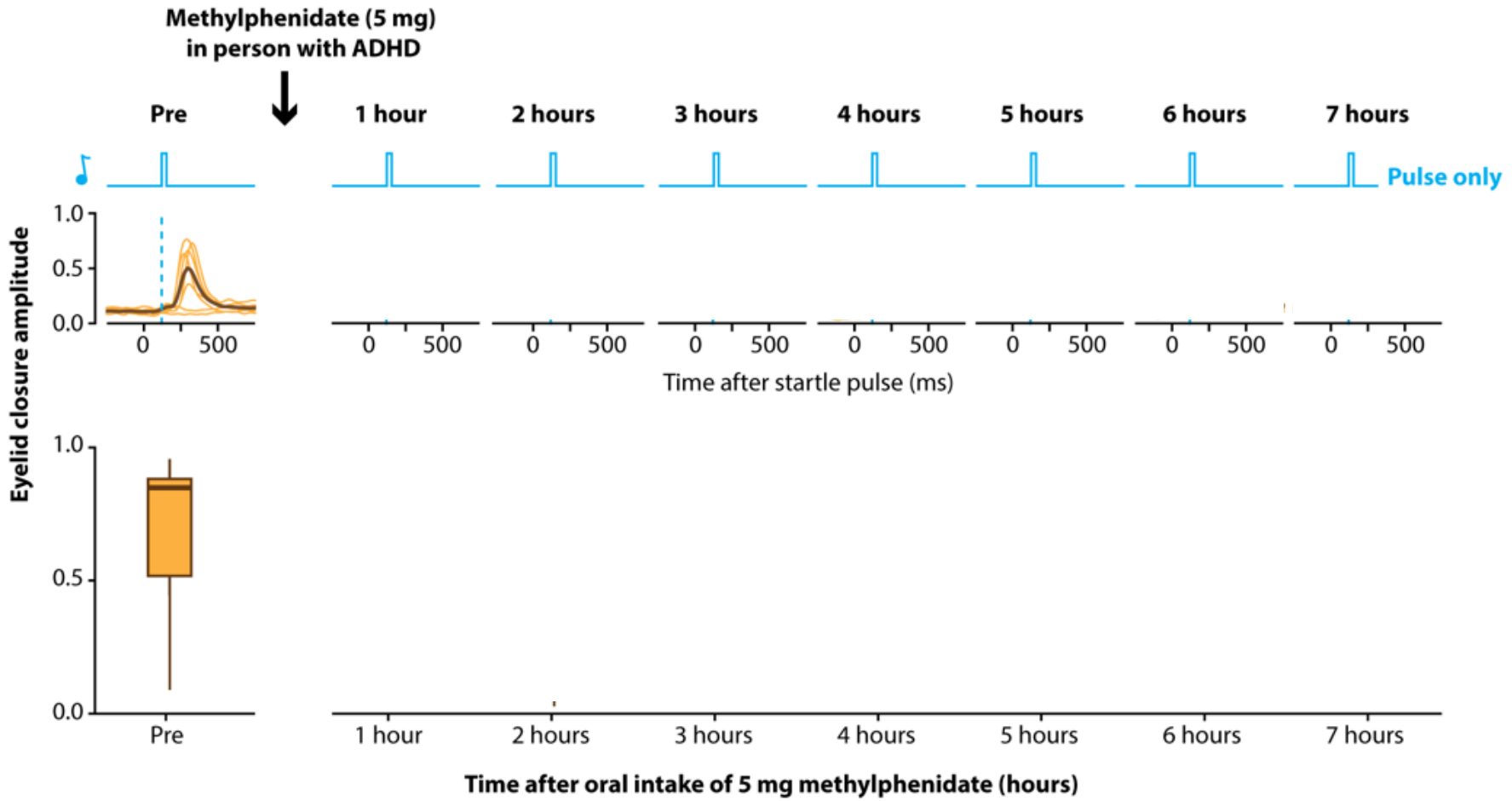
Paper submitted for publication

BlinkLab outperforms FDA-approved digital peers

We are leaders in the rapidly growing space of digital diagnostics and therapeutics.

	blinklab	cognoa	EarliTec Diagnostics Inc.
Sensitivity	85%	52%	71%
Specificity	84%	19%	81%
Smartphone-based	Yes	Yes	No
FDA approval	No - *510(k)*	Yes - *De Novo*	Yes - *510(k)*

First product to monitor the effect of therapy in real-time



Real-time drug monitoring offers a path to even larger recurring revenues via subscription-based models

We are experts in science, tech and commercialization

Henk-Jan Boele, CEO

MD, PhD, Entrepreneur and neuroscientist at Erasmus MC and Princeton University

Fifteen years of experience in neurobehavioral testing with over 35 publications. Recipient of many prestigious awards. Team leader and inventor of BlinkLab.

Anton Uvarov, COO Executive director

MBA, PhD, Biotechnology Analyst with Citibank

Cofounder of two biotechnology companies, developed therapeutics for neurodegenerative disorders. Both successfully IPO and publicly traded.

Bas Koekkoek, CSO

PhD, Assistant Professor of Neuroscience. Erasmus MC

Twenty-six years of experience in neurobehavioral testing with over 55 publications in IEEE and the field of neuroscience. An innovator in heart and soul. Cofounder of Neurasmus BV.

Peter Boele, CTO

MA, PhD candidate, Erasmus MC

Born to code, with over 20 years of experience in software development, both as developer as well as executive.

Our mission is to use neuroscience to improve the daily life of families with autism.

We are backed up by an expert advisory board

Company Chairman

Brian Leedman

Experienced Chairman and co-founder of five ASX listed healthcare companies including digital healthcare company ResApp Health, acquired by Pfizer for $180M in 2022.

ResApp HEALTH · Neurotech International

Company Director

Jane Morgan

Providing strategic investor and media relations services for over 16 years. Founder of JMM.

JMM JANE MORGAN MANAGEMENT

Company Director

Richard Hopkins

Experienced bio-pharmaceutical executive with over 20 years in corporate leadership roles with public biotechnology companies.

zelira THERAPEUTICS · PharmAust LIMITED · PYC THERAPEUTICS

Scientific advisor

Prof. Samuel Wang

Professor of Neuroscience at Princeton University and author of 2 bestselling books.

PRINCETON UNIVERSITY

Scientific advisor

Prof. Chris De Zeeuw

Professor of Neuroscience at Erasmus MC and vice-director of the NIN (Netherlands Institute of Neuroscience).

Erasmus MC

Scientific advisor

Prof. Javier Medina

Professor in neuroscience at Baylor College of Medicine in Houston.

BCM Baylor College of Medicine

World leading scientists, strategic and commercial advisors.

BlinkLab is collaborating with world-leading institutions

Since our product launched in 2022, we have established global partnerships academic and clinical institutes.

2022	2023	2024	ongoing	
Princeton University				**Proof-of-concept** of smartphone-based neurometric evaluations.
	Mohammed V Foundations for solidarity			Multi-center **autism** study in Morocco on BlinkLab's diagnostic accuracy.
		ESPOCH		Multi-center study in Ecuador on brain development, nutrition, and **autism.**
			Scanner Consortium Europe	Large European consortium, awarded 5.3M euro's, on **autism** in women.
			Turning Pointe Autism	**Autism** study in United States on BlinkLab's diagnostic accuracy.
			Erasmus University	Large study on early detection of **Alzheimer's** and **Frontotemporal Dementia.**
			Bates College	Objective biomarkers for **Functional Neurological Disorders.**
			Columbia University	Effects of physical activity on **Spinocerebellar Ataxia (SCA).**
			Mental Care Group	**Research and commercial partnership** with the fifth largest provider of mental health care in
			Monash Univ.	Study on the pharmacology of human decision making and effects of **ketamine.**
			INTER-PSY	Prospective study on diagnostic accuracy for **autism** in young children.

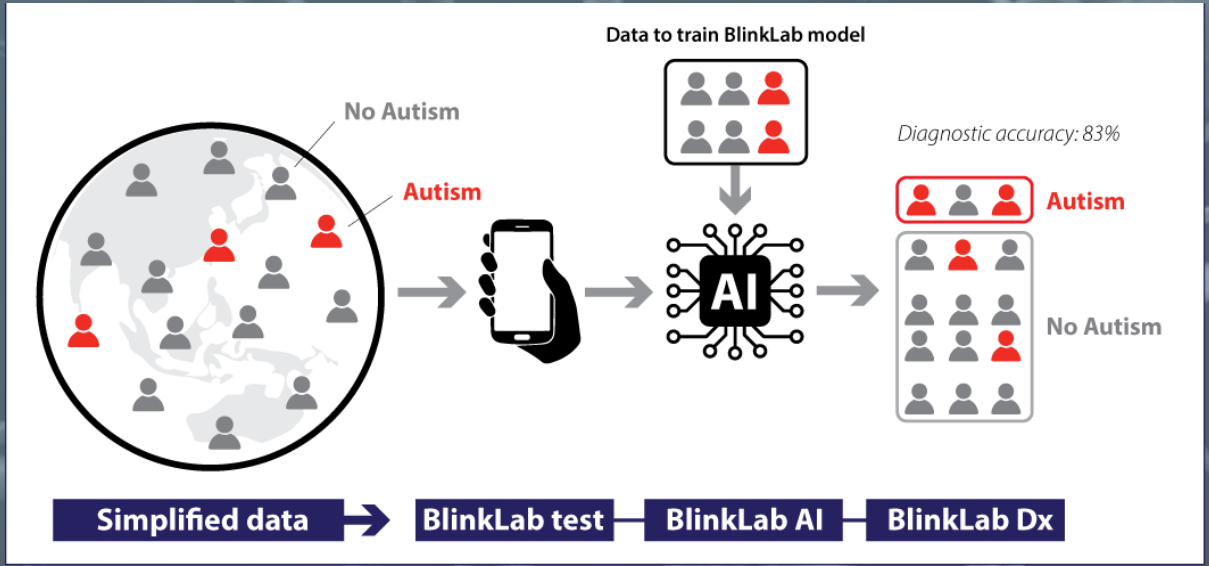
Prof. Samuel S. -H. Wang (Princeton University)

"The BlinkLab app is easy to operate, substantially reduces the costs of diagnosis, and produces reliable and reproducible results."

Optimizing AI and Machine Learning for BlinkLab Dx

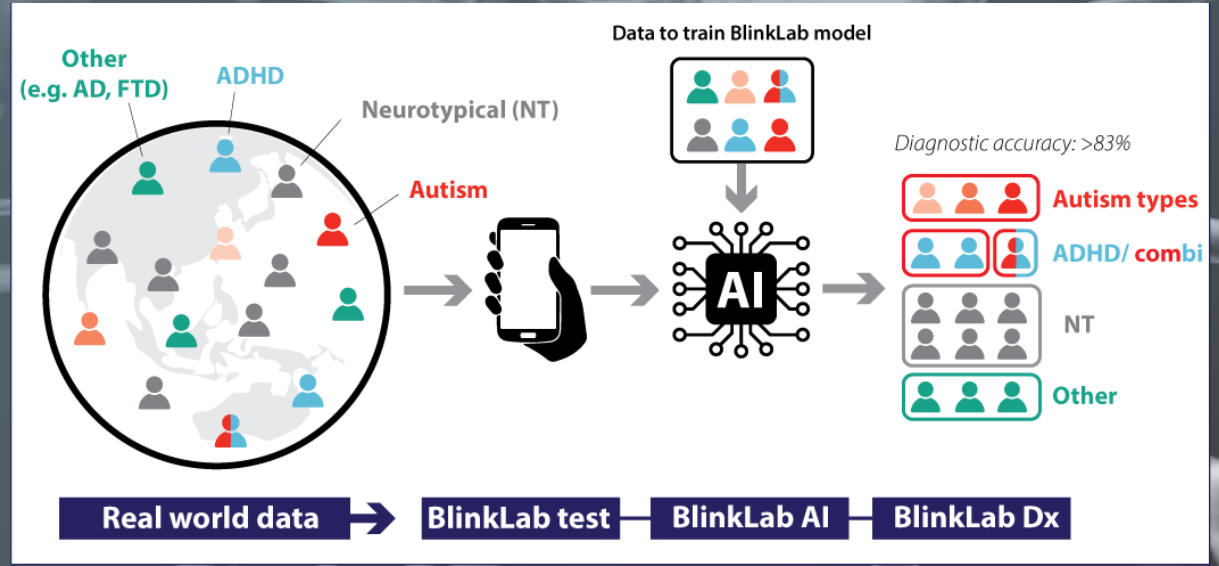
Establishing academic partnerships is crucial not only for academic and clinical adoption but also for training our ML and AI models with diverse datasets that reflect real-world diagnoses.

PREVIOUS STUDIES



Our binary AI classification model, which categorizes individuals into 'Autism' and 'No Autism,' achieved an 83% diagnostic accuracy. However, this model's assumption of only these two categories oversimplifies the complexity of real-world diagnoses.

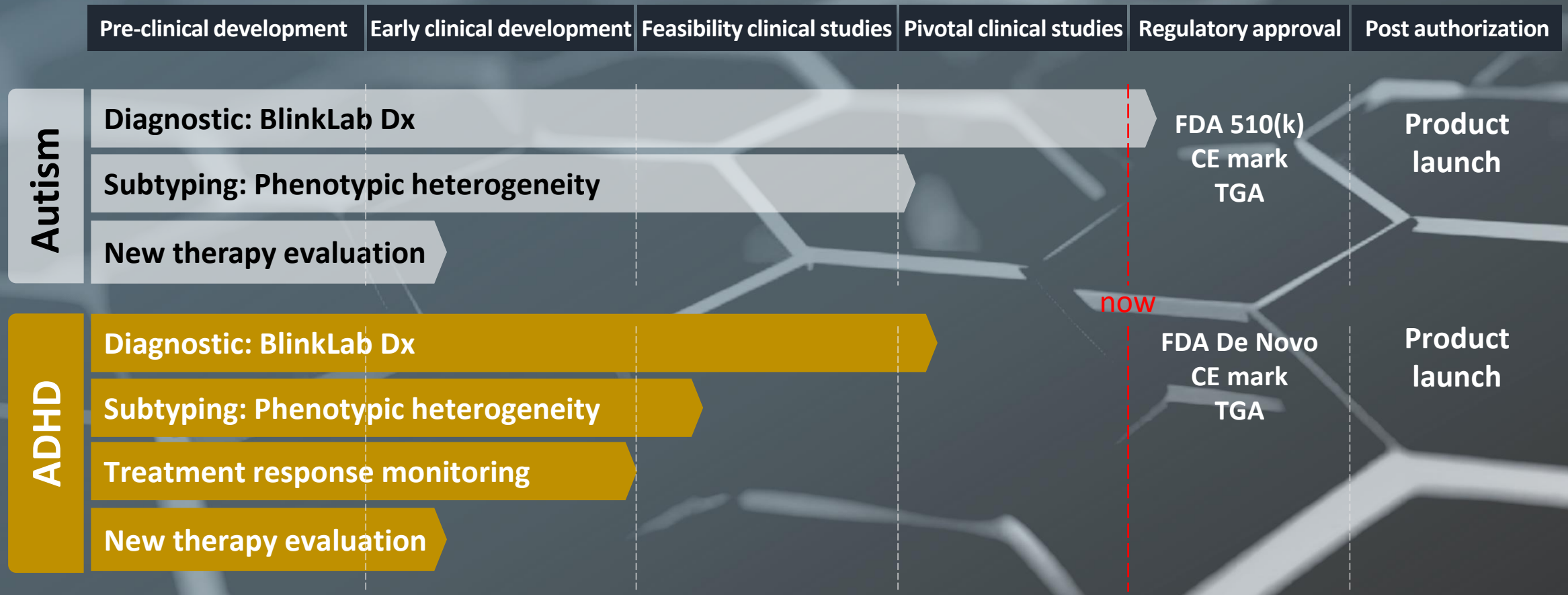
CURRENT WORK



We are currently training our AI model with data that more accurately reflects real-world diversity, including other neuropsychiatric conditions such as ADHD, Alzheimer's (AD) and frontotemporal dementia (FTD). This enhances the model's performance in identifying autism subtypes and ADHD.

R&D Pipeline

Our R&D pipeline is focused on obtaining FDA 510(k) clearance and EU regulatory approval for BlinkLab as a diagnostic adjunct for autism and ADHD.



Important milestones

News pipeline: Updates on regulatory studies on autism and ADHD and new partnerships

Milestone	Timeframe
Start of activities for FDA registrational study in autism (appointment of CRO, lead clinical investigator, etc.)	*1H 2024
Initiation of ADHD discovery phase study	*1Q 2024
Completion of Autism study in Morocco / EU	*1Q 2024
Completion of pilot Schizophrenia study (EU)	*1H 2024
Initiation of global Schizophrenia study (potentially registrational, tbc depending on pilot study outcome)	2H 2024
FDA registrational study in Autism starts	2H 2024
CE mark submission for Autism (EU)	2H 2024
Completion of ADHD discovery phase study	*2H 2024
Completion of pilot saccadometry (sporadic pupil movement) study in Alzheimer's/MCI	2H 2024
CE Mark approval (6 months post submission)	1H 2025
Initiation of FDA registrational study in ADHD	4Q 2024 / 1Q 2025
Initiation of Alzheimers/MCI saccadometry study (potentially registrational)	*4Q 2024 / 1Q 2025
FDA registration study in Autism complete	1H 2025
510k FDA submission is Autism	2H 2025
510k FDA approval in Autism (approx. 6 months after submission)	1Q 2026

*Achieved

Capital structure of ASX:BB1

Pre-IPO Overview (November 2021 – March 2024)	
November 2021: Seed Raising of A$1.2M	A$0.06
November 2023: Pre-IPO Raising of A$1.4M	A$0.12
April 2024: IPO Raising of A$7.0M	A$0.20

Public Market Overview (21 October 2024)	
Share Price	A$0.30
Shares on issue	99,150,003
Founders' shareholding percentage	37%
Market Cap	A$29.7M

Use of Funds: Regulatory approval and ready for launch

FDA 510(k) and CE approval for BlinkLab as a diagnostic aid for autism spectrum disorder

Allocation of funds	Full Subscription ($7,000,000)	
	Total	%
Expenses of the Public Offer	$695,945	8.79%
Software Improvement and Tech Support	$1,656,568	20.93%
IP Protection	$150,000	1.90%
Research and Business Development	$1,031,500	13.03%
Clinical Studies and Regulatory (United States)	$1,869,609	23.62%
Completion of Clinical Study and Regulatory Submission (Europe)	$480,000	6.06%
General, Admin & Working Capital	$1,691,114	21.37%
Ongoing Listing Costs	$340,000	4.30%
Total (includes pre-IPO funds raised)	**$7,914,736**	**100%**

Note: $1.4M raised in pre-IPO

Please refer to prospectus @ https://www.blinklab.org/prospectus/

Intellectual property

Our patents prohibit other parties to conduct neurometric testing using mobile devices.

BlinkLab has consistently prioritized the development and protection of its intellectual property since its seed funding round in August 2021. Our capital investments sourced from seed investors, government funding, and industry sponsorships - have been primarily utilized for IP and software development.

We are represented by the US-based law firm, Meagher Emanuel Laks Goldberg & Liao, LLP, which ensures our IP protection. We have filed National Stage Applications for 2020-2021 patents across various jurisdictions including the United States, Japan, Canada, Australia, Korea, and the European Patent Office (EPO) in March 2023.

Our portfolio comprises patents filed both by Princeton University, under an exclusive license agreement, and BlinkLab itself. These patents range from systems for neurobehavioral testing to methods for measuring emotional engagement, all of which firmly establish our innovation and leadership in the field.

Patents filed by Princeton University, with an exclusive license agreement in place between Princeton University and BlinkLab:

- PCT application number PCT/US2021/058698 Filed November 10, 2021, entitled “System and Method for Remote Neurobehavioral Testing”
- US patent application number 18/036,009 Filed May 9, 2023, entitled “System and Method for Remote Neurobehavioral Testing”
- European patent application number 21892692.1 Filed March 31, 2023, entitled “System and Method for Remote Neurobehavioral Testing”
- Japanese patent application number 2023-528017 Filed May 10, 2023, entitled “System and Method for Remote Neurobehavioral Testing”
- Canadian patent application number 3,195,596 Filed April 13, 2023, entitled “System and Method for Remote Neurobehavioral Testing”
- Korean patent application number 10-2023-7018839 Filed June 2, 2023, entitled “System and Method for Remote Neurobehavioral Testing”
- Australian patent application number 2021378273 Filed May 23, 2023, entitled “System and Method for Remote Neurobehavioral Testing”

Patents filed by BlinkLab:

- US Provisional patent application number 63/218,607 Filed on November 30, 2022, entitled “Psychopharmacological System and Method Using Eyelid Tracking”
- US Provisional patent application number 63/460,451 Filed on April 19, 2023, entitled “Method And System For Measuring Emotional Engagement”
- US Provisional patent application number 63/548,542 Filed on February 1, 2024, entitled “System And method For Detecting Neurological Condition”

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