香港城市大學
City University of Hong Kong

Seed fund Project

Artificial intelligence (AI) based EEG platform for drugs screening

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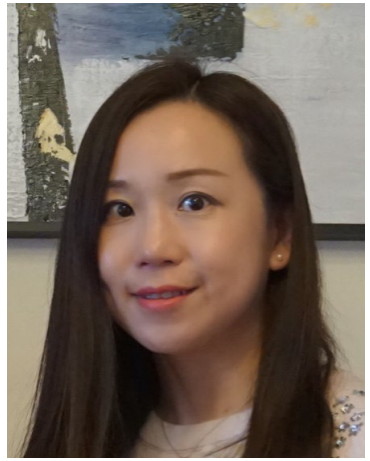

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Department of Neuroscience
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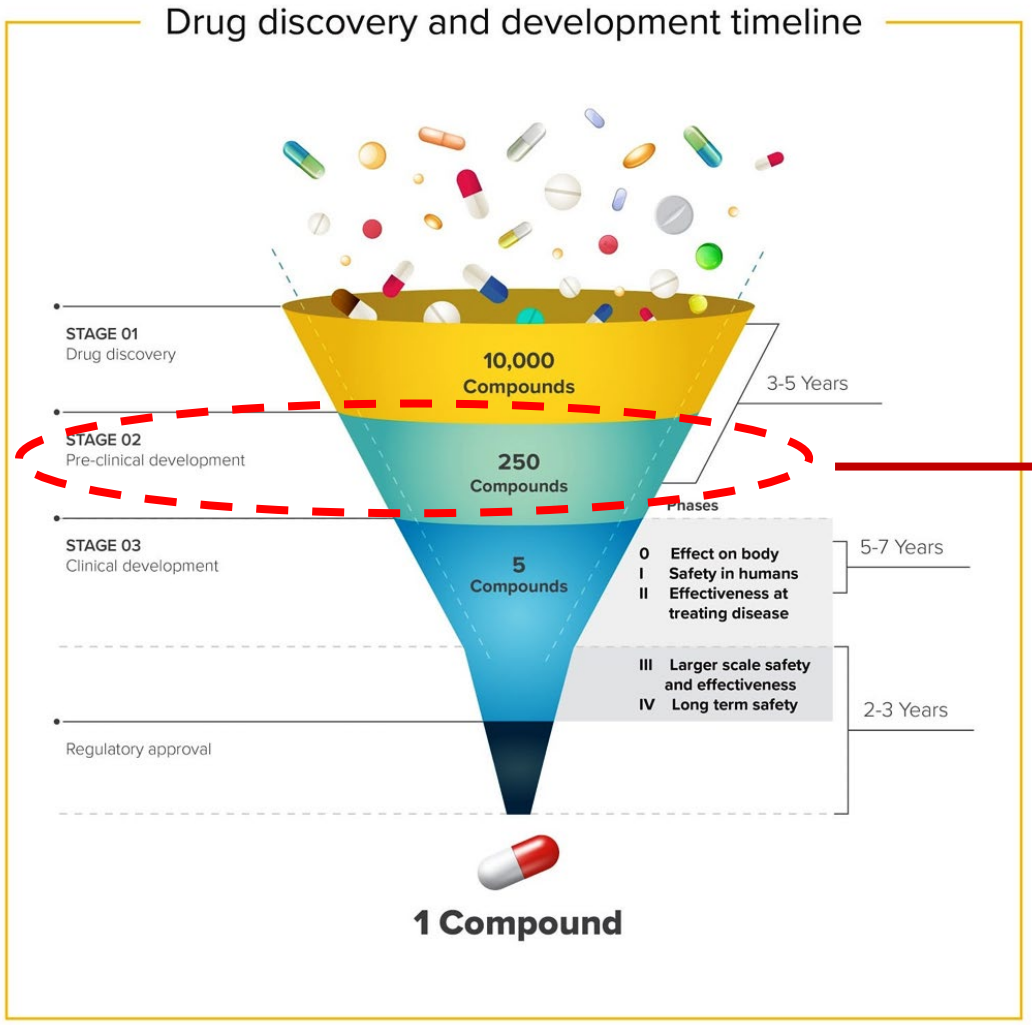
Drug development industry

Current practice shortfall

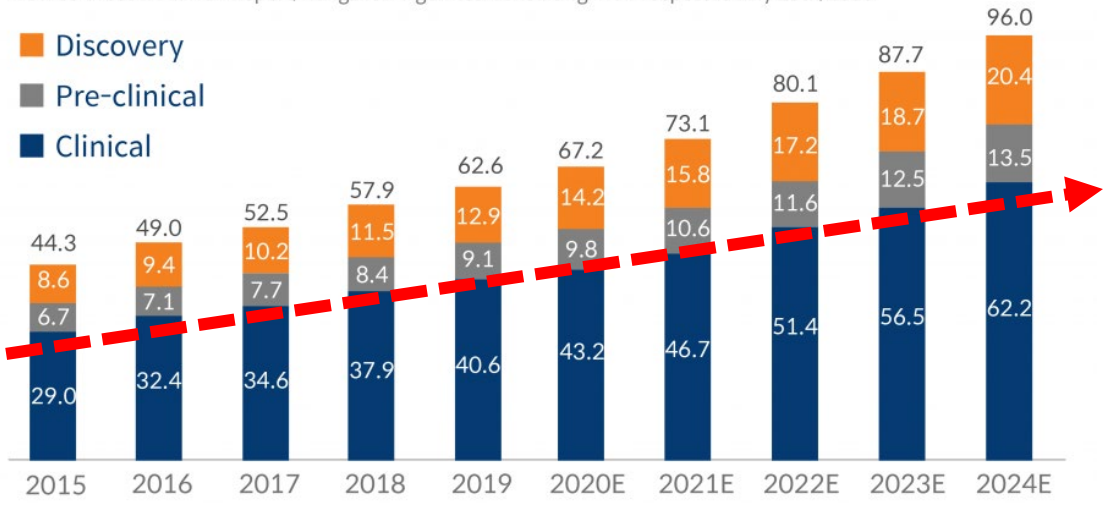


Break the barrier using AI

Business opportunity

Global Pharmaceutical CRO Market and Breakdown by Discovery, Pre-clinical, and Clinical, 2015-2024E

Source: Frost & Sullivan Report, Hangzhou Tigermed Consulting IPO Prospectus July 28th, 2020



CAGR	Discovery	Pre-clinical	Clinical	Total
2015-2019	10.8%	7.9%	8.7%	9.0%
2019-2024E	9.6%	8.2%	8.9%	8.9%

Billion USD

AniTech Limited

Hong Kong Pe-clinical Contract Research Organisation (CRO)

Proof-of-Concept (POC) to Investigational new Drug (IND) development

- ❖AniTech Limited (HK) was founded in June 2021.
- ❖It is a Pre-clinical CRO for drug development.
- ❖Company has its own neuro-diagnostic technology platform offering solutions for faster screening of CNS drugs.
- ❖Company provides customized method for drugs development using the rodent's model.
- ❖Supported by HK Tech 300, Seed fund project, City University of Hong Kong.

編號 No. 3058965

公司註冊處
COMPANIES REGISTRY

公司註冊證明書
CERTIFICATE OF INCORPORATION

本人謹此證明
I hereby certify that

AniTech Limited
安神生物科技有限公司

於本日根據香港法例第622章《公司條例》
is this day incorporated in Hong Kong under the Companies Ordinance
在香港成立為法團，此公司是一間
(Chapter 622 of the Laws of Hong Kong), and that this company is
有限公司。
a limited company.

本證明書於二〇二一年六月十八日發出。
Issued on 18 June 2021.

香港特別行政區公司註冊處處長徐龍貴
Ms Kitty TSUI
Registrar of Companies
Hong Kong Special Administrative Region

註 Note :
公司名稱獲公司註冊處註冊，並不表示獲授予該公司名稱或其任何部分的商標權或任何其他知識產權。
Registration of a company name with the Companies Registry does not confer any trade mark rights or any other intellectual property rights in respect of the company name or any part thereof.

Our services

ANIMAL MODELS

1. Alzheimer's Disease
2. Parkinson's Disease
3. Epilepsy
4. Stroke
5. Brain & Spine Injury Models
6. Ataxia mice model
7. Peripheral nerve injury model

BEHAVIORAL TESTS

1. Anxiety and Depression
2. Cognition
3. Epilepsy and Seizure
4. Drug Abuse Liability
5. Motor Function
6. Pain
7. Peripheral nerve regeneration assessment tests.

ROUTE OF DRUG ADMINSITRATION

1. Oral (po)
2. Intraperitoneal (ip)
3. Subcutaneous (sc) and intramuscular (im)
4. Intravenous (iv)
5. Intracerebelar ventricular (icv)

IMMUNOHISTOCHEMISTRY

1. Samples and Sectioning
2. Immunohistochemistry
3. Imaging
4. Qualitative Histology
5. Quantitative Histology

MOLECULAR BIOLOGY

Genotyping of transgenic mice models
Quantitative RT–PCR
Quantitative Western Blot
Rodent Primary Neurons and Glia Culture
ELISA

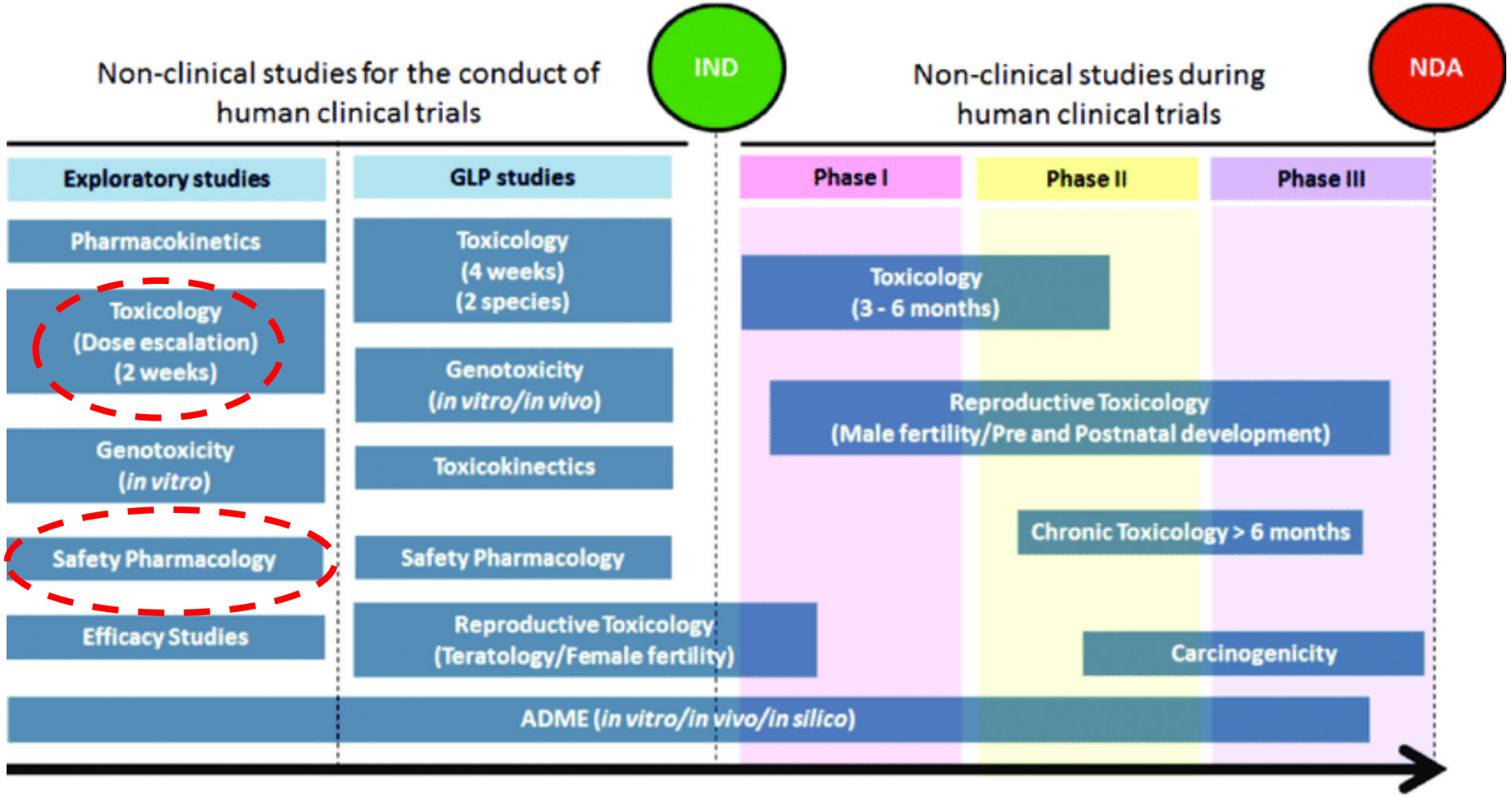
ELECTROPHYSIOLOGY

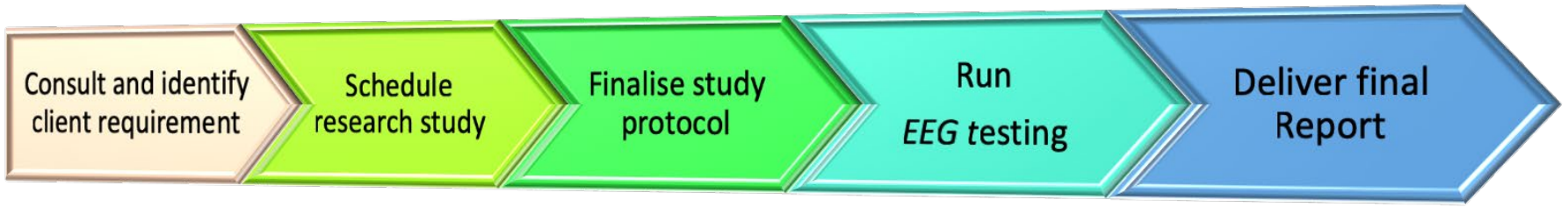
1. In Vivo brain electrophysiology (multi-channel neuronal recording)
2. Electromyography (EMG) recording
3. Epilepsy and Seizures monitoring by EEG
4. Sleep-Wake Polysomnographic EEG

DOCUMENTATION IN PRECLINICAL TESTING PROGRAMS

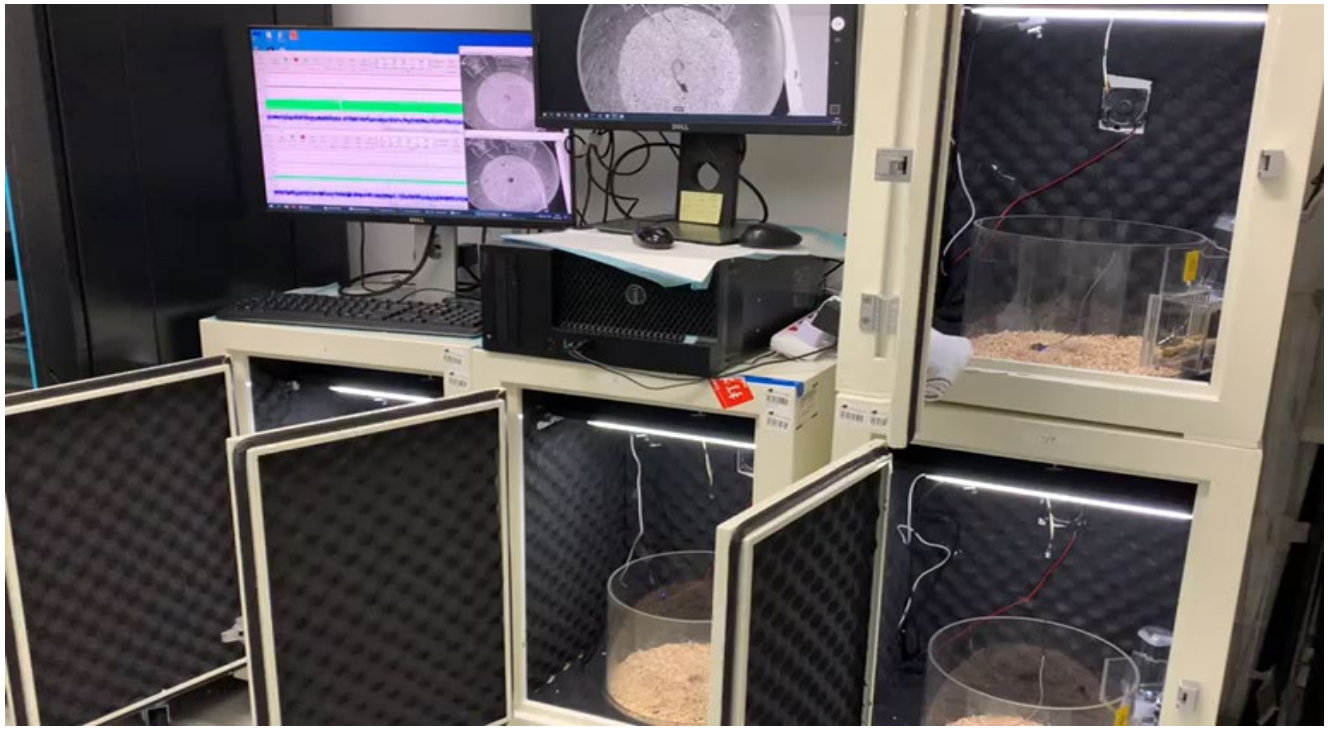
S. No	Item	Description
1	**Protocol writing**	Preclinical studies (non-GLP and GLP) require a detailed protocol that is reviewed and approved by IACUC, the Institutional Animal Care and Use Committee. Study directors and principal investigators (PIs) spend a considerable amount of time writing these protocols which dictate the conduct of the study and eventual data-based results and reports.
2	**Animal / model acquisition**	A healthy model from a trusted vendor is key to the success of a preclinical study. Animal models from a purpose-bred USDA approved vendor designated as “Class A” or “Class B.” (Jackson’s lab, USA).
3	**Procedural facility**	The procedural costs take into consideration the length of the procedure and the requisite staff, facilities, equipment and supplies needed to perform the procedures based on the scope of work. **Labour:** Highly skilled is another important component of the procedure cost. **Equipment:** Equipment are in compliance with the federal code of regulations as well as the maintenance and calibration records to ensure GLP compliance. **Per diems:** Standard observations, husbandry and standard medications, food and water
4	**Observations / follow ups**	SOAP examinations and are special tests. Clinical pathology: A good preclinical study, especially GLP, includes baseline pre-op, post-op, follow up and terminal blood work.
5	**Supplies**	Medical grade: Medication to sutures
6	**Reporting**	Our final reports for GLP studies include the incorporation of veterinary reports, necropsy reports, histopathology reports, pathology reports and completed by an independent and experienced team.
7	**Third party vendors**	A preclinical study is often dependent on histopathology or toxicology. We have vet pathologist, CityU as collaborative partner.
8	**GLP**	For a GLP study, most CROs add a GLP surcharge. This charge exists for very good reasons.

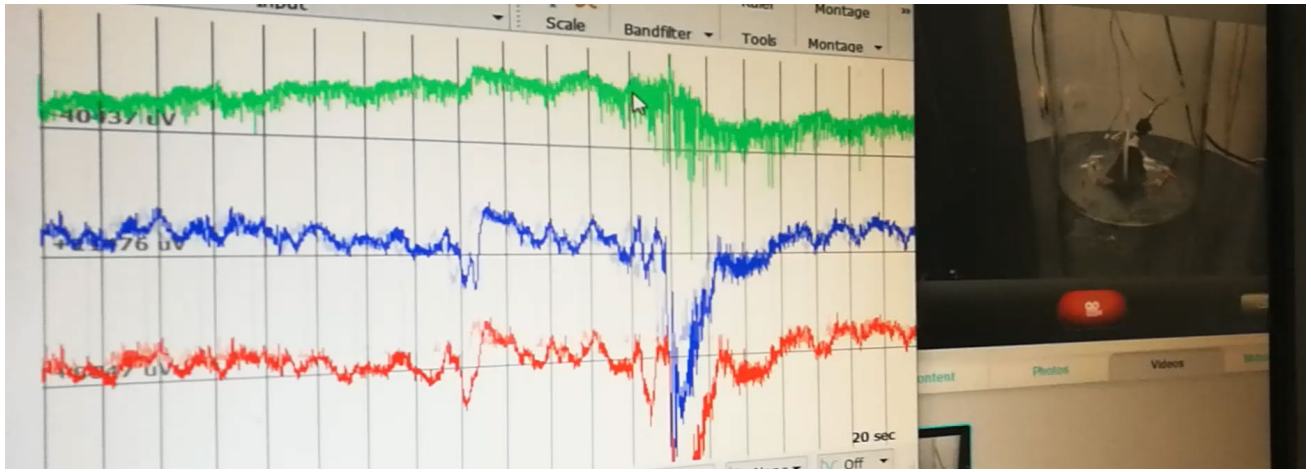
Studies covered by our company

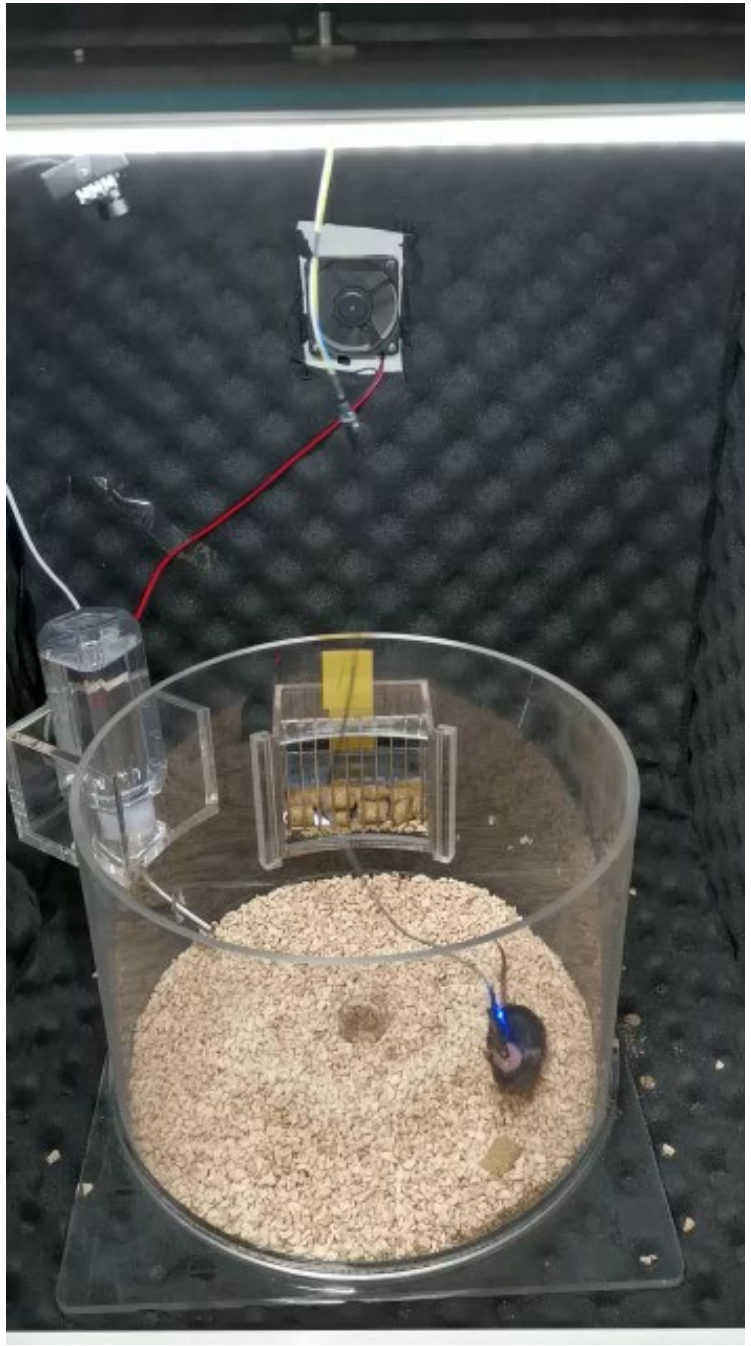




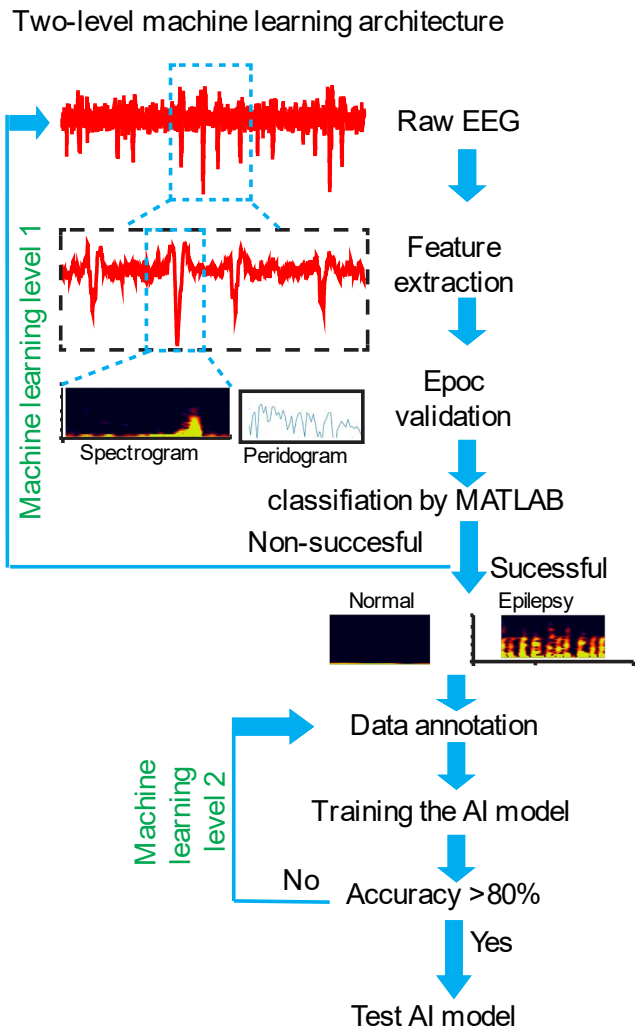
High throughput EEG screening system

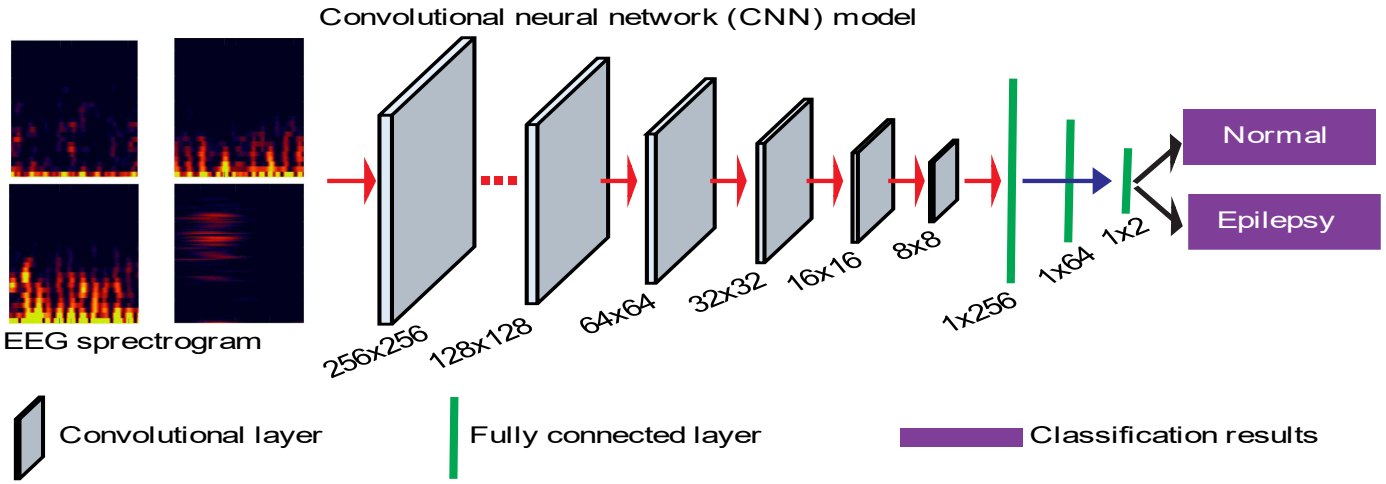






AI based EEG platform for screening of anti-epilepsy





CNN models comparison

Model	Training	Test	Accuracy
City U model	Mouse	Mouse	95.3%
	Human	Human	95.1%
	Mouse	Human	82.6%
VGG model (Oxford)	Mouse	Mouse	93.7%
	Human	Human	92.8%
	Mouse	Human	76.2%

AI in Drug Discovery: Technologies and Applications

Artificial intelligence in virtual screening, de novo drug design, lead optimization, and chemical synthesis planning

AniTech Limited

Our platform in development……..

Our collaborative partner and support

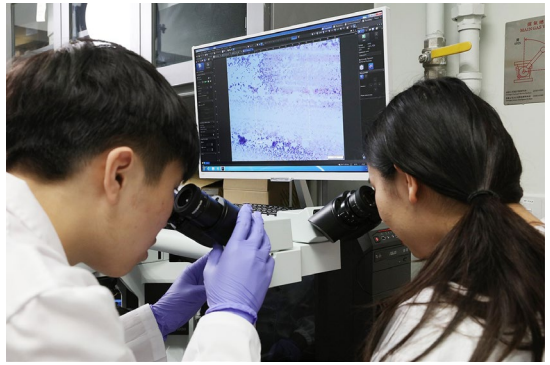
CityU Laboratory Animal Research Unit
香港城市大學
City University of Hong Kong

ISO 9001:2015 accredited

CityU Jockey Club College of Veterinary Medicine and Life Sciences
香港城市大學
City University of Hong Kong
in collaboration with Cornell University

CityU 香港城市大學 City University of Hong Kong

VDL VETERINARY DIAGNOSTIC LABORATORY



Technology support

Bio-Signal Technologies

Recruitment, collaborations and investor

Talent Needed: Biomedical Engineering experienced in EEG signal processing, MATLAB, Python, AI and cloud computing.

Collaborators company: IoT, AI and cloud computing, Pharmaceutical, cosmetics, Chinese medicine manufacturer.

Investors: We are looking for investor for the expansion of the company.

Contact for detailed information: gkumar@anitech.hk (www.anitech.hk)

Acknowledgement

Prof. Way Kuo: President, CityU

Prof. Michael Yang: Vice-President (Research and Technology), CityU.

Dr. Eddie MA: Associate Professor, Dept. of Neuroscience, CityU.

Seed fund support

(HKD 100k)

CityU 香港城市大學 City University of Hong Kong

HK TECH 300

創科無限・引領未來

Venture Beyond Boundaries

CityU Knowledge Transfer Office

香港城市大學

City University of Hong Kong

Thanks