










Matheus Machado Rech

M.D.


Contact Information

-  +55 54 9 96921904
-  mmrech.md@gmail.com
-  LinkedIn: /in/mmrech/
-  Caxias do Sul, RS, Brazil

Languages

-  **English**
Proficient
-  **Spanish**
Proficient
-  **Portuguese**
Native

Professional ID

 **ORCID**

ORCID: 0000-0002-2961-9443



Academic Background

Education

Doctor of Medicine (M.D.) University of Caxias do Sul
Caxias do Sul, Brazil 2018 - 2024

Research Experience

Scientific Initiation Scholarship Program University of Caxias do Sul
Funded by the National Council for Scientific and Technological Development (CNPq) April 2020 - March 2023

Research Focus & Achievements

A federally funded national research fellowship focused on healthcare innovation and clinical outcomes prediction.



AI/ML Models

Engineered and validated AI/ML models to predict patient outcomes in complex clinical scenarios



Data Pipelines

Constructed robust Python/Matlab data pipelines to simulate uncertainty in healthcare systems



Novel Approaches

Investigated novel machine learning approaches for predicting patient-specific variability



Technical Reports

Authored technical reports and presented findings to faculty and the national funding agency (CNPq)



Teaching Experience

Neurology / Neuropsychiatry (2022)

60 hours

Supervisor: Marcelo Mattana, MD

Delivered additional lectures and assistance to junior medical students

Selection: Competitive exam

Surgical Technique & Anesthesia (2020)

60 hours

Supervisor: Marcos Dalponte, MD

Assisted with skills-focused teaching and supplemental lectures

Selection: Competitive exam

Human Anatomy (Morphology) (2020)

60 hours

Supervisor: Fabio Pasqualoto, MD, PhD

Delivered additional lectures and assistance to health-sciences students

Selection: Competitive exam

Biophysiology (2020)

30 hours

Supervisor: Rafael Colombo, PhD

Delivered additional lectures and assistance to health-sciences students

Selection: Competitive exam

Neuroanatomy (2019-2020)

Supervisor: Asdrubal Falavigna, MD, PhD

Delivered additional lectures and provided assistance to junior medical and other health-sciences students

Selection: Competitive exam

Neurophysiology (2019)

30 hours

Supervisor: Asdrubal Falavigna, MD, PhD

Delivered additional lectures and assistance to junior medical students

Selection: Competitive exam

Continuing Education



2024

Principles and Practice of Clinical Research (PPCR)

Harvard T.H. Chan School of Public Health • Boston, MA

9-month postgraduate program providing expertise in biostatistics, epidemiology, and clinical trial design.



2019

Continuing Education Program in Research

AO Spine Latin America

Intensive training in evidence-based practice, literature search, database management, and manuscript writing.

Leadership, Service & Innovation

Leadership & Professional Activities

Director of Medical Education Affairs

Brazilian Association of Medical Students
2022-2023

President and Founding Member

Association of Medical Students of Rio Grande do Sul
2021-2022

President / Vice President / Scientific Director

Medical Student Union, University of Caxias do Sul
2019-2022

Community Builder, Campus Director, Co-lead Impact Summit

Hult Prize Foundation (Global)
2020-2023



Course Organization

Mayo Clinic

Rhoton-de Oliveira Skull Base Lab • 2023



Volunteer Work

Vine Trust "Amazon Hope"

Peru Medical Program • 2023



Editorial Activities

Regional Editor

J. Brazilian Medical Association • 2020-Present



Committee Service

3 Positions

Medical School, History Assoc, ABEM



Honors & Awards



First Place, Secondary Research: Gynecology

Brazilian Congress of Gynecology and Obstetrics
Rio de Janeiro, Brazil

2025



Honorable Mention, Machine Learning Algorithm

UCS Young Researchers Meeting
Caxias do Sul, Brazil

2021



Special Prize (Honorable Mention), BRICS International School







Contest for BRICS Young Leaders
Moscow, Russia

2020



Peer-Reviewed Articles

Peer-Reviewed Articles

<div> Machine learning models to forecast outcomes of pituitary surgery: systematic review</div> <div>Brain Sciences</div> <div>2023</div> <div>Rech MM, de Macedo Filho L, White AJ, et al. Machine learning models to forecast outcomes of pituitary surgery: systematic review. Brain Sciences...</div>	<div> Publication trends of intrathecal baclofen therapy: bibliometric analysis</div> <div>World Neurosurgery</div> <div>2024</div> <div>Rech MM, Ramos MB, Piva FE, et al. Publication trends of intrathecal baclofen therapy: bibliometric analysis. World Neurosurgery....</div>
<div> Development and validation of a machine learning model to predict mortality in cirrhosis with esophageal variceal bleeding</div> <div>World Journal of Hepatology</div> <div>2025</div> <div>Rech MM, Corso LL, Dal Bó EF, et al. Development and validation of a machine learning model to predict mortality in cirrhosis with esophageal...</div>	<div> Author Impact Factor as a metric in neurosurgery</div> <div>World Neurosurgery</div> <div>2022</div> <div>Ramos MB, Rech MM, Dagostini CM, Britz JPE, Teixeira MJ, Figueiredo EG. Author Impact Factor as a metric in neurosurgery. World Neurosurgery....</div>
<div> Predicting major adverse cardiovascular events after liver transplantation using supervised machine learning</div> <div>World Journal of Hepatology</div> <div>2024</div> <div>Soldera J, Corso LL, Rech MM, et al. Predicting major adverse cardiovascular events after liver transplantation using supervised machin...</div>	<div> Emergency neurological life support in literature: bibliometric study</div> <div>Arquivos de Neuro-Psiquiatria</div> <div>2024</div> <div>Ramos MB, Rech MM, Telles JPM, Moraes WM, Teixeira MJ, Figueiredo EG. Emergency neurological life support in literature: bibliometric study....</div>



Abstracts & Presentations



Interpretable Machine Learning Algorithms Applied to Outcome Prediction in Spine Surgery

XXXI Young Researchers Meeting • Caxias do Sul, Brazil

2023

Oral Presentation



Publication Trends of Research on Intrathecal Baclofen Therapy

XXXIV Brazilian Congress of Neurosurgery • São Paulo, Brazil

2023

Poster



Prospective Validation of a Neural Network Model for the Prediction of 1-Year Mortality in Cirrhotic Patients

Digestive Disease Week (AASLD/AGA) • Chicago, IL

2023

Oral Presentation



Predicting Post-Liver Transplantation Major Adverse Cardiovascular Events Using a Machine Learning Algorithm

Digestive Disease Week (AASLD/AGA) • Chicago, IL

2023

Oral Presentation



Knowledge, Attitudes and Behaviors Regarding the Use of Clinical Practice Guidelines Among Spine Surgeons in Latin America

XXXIII Brazilian Congress of Neurosurgery • João Pessoa, Brazil

2022

Oral Presentation