



Congress of
Neurological
Surgeons

2024 Translating Data Science to Neurosurgical Practice: From Computer Screen to Bedside

Saturday, June 8, 2024

Zoom

Course Description

This course will provide neurosurgeons, junior academic faculty, and residents with a framework for answering neurosurgical questions using data science models and translating these models into clinical practice. The course aims to help clinicians understand how to incorporate data science models into their clinical practice and to critically evaluate models for their transparency, reliability, and efficacy.

Learning Objectives

Upon completion of this course, participants will be able to:

1. Identify and describe data science models that can address neurosurgical clinical questions
2. Evaluate the pathway from inception to clinical deployment of a data science model in neurosurgical practice
3. Critically analyze neurosurgical data science models for their transparency, reliability, and efficacy

ACCME Accreditation Statement

The Congress of Neurological Surgeons is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

AMA Credit Designation Statement

The Congress of Neurological Surgeons designates this [activity format] for a maximum of *6.50 AMA PRA Category 1 Credit(s)*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Reviewers:

Tiffany Hodges Akash Patel

Planners:

Natasha Ironside Eric Oermann Lauren Stone

Faculty:

Todd Hollon Shinjini Kundu Katie Link Jiachang Liu

Gustavo Rohde Katharina Schultebrucks Greg Zynda

AGENDA

All Times are in Central Time

Saturday, June 8

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|----------------|--|
| 9:00–9:15 am | Welcome and introduction, Natasha Ironside and Lauren Stone |
| 9:15–10:00 am | Writing a Data Science Question for the Neurosurgical Setting, Todd Hollon |
| 10:00–10:45 am | Designing Interpretable Machine Learning Models - Decomposing Black Box Methods, Jiachang Liu |
| 10:45–11:00 am | Break |
| 11:00–11:45 am | Alternatives to Convolutional Neural Networks for Signal and Image Processing, Shinjini Kundu and Gustavo Rohde |
| 11:45–12:30 pm | Curating Big Datasets for Use in Neurosurgical Data Science Search, Katie Link |
| 12:30–12:45 pm | Break |
| 12:45–1:30 pm | Assessing Safety and Efficacy of Data Science Models in the Clinical Environment, Katharina Schultebrucks |
| 1:30–2:15 pm | Transition to Market: Deploying Data Science Models, Greg Zynda |
| 2:15–2:30 pm | Break |
| 2:30–3:45 pm | Data Science Workshop |
| 3:45–4:00 pm | Conclusion, Natasha Ironside and Lauren Stone |

RELEVANT CONFLICT OF INTEREST DISCLOSURES

CNS Disclosure Policy

The Congress of Neurological Surgeons controls the content and production of this CME activity and attempts to ensure the presentation of balanced, objective information. In accordance with the Standards for Integrity and Independence in Accredited Continuing Education established by the Accreditation Council for Continuing Medical Education (ACCME), speakers are asked to disclose all relationships they have with ineligible companies* over the previous 24 months which may be related to the content of their lecture. Speakers who have disclosed a relationship with an ineligible company whose products may be relevant to their presentation are listed below.

Any planner, reviewer, or faculty member not on the disclosure list has reported they have nothing to disclose. All relevant financial relationships listed for these individuals have been mitigated.

**Ineligible companies are those whose primary business is producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients. An ineligible company is not eligible for ACCME accreditation or participation in Joint Providership.*

Agenda and faculty subject to change

As of 5/15/2024

Reviewers

Individual's Name	Nature of Relationship(s)	Name(s) of Ineligible Company
Tiffany Hodges		Nothing to Disclose
Akash Patel		Nothing to Disclose

Faculty

Individual's Name	Nature of Relationship(s)	Name(s) of Ineligible Company
Todd Hollon	Future Stock Options	Invenio Imaging, Inc.

EDUCATION GRANTS & IN-KIND EQUIPMENT

Commercial Support:

Congress of Neurological Surgeons wishes to recognize and thank the following for providing an educational grant and/or use of equipment (in-kind):

Name of Commercial Supporter	In-Kind Support	Financial Support
None Received for this meeting		