

Sabyasachi Bandyopadhyay

Postdoctoral Scholar, Cardiovascular Medicine

Bio

STANFORD ADVISORS

- Sanjiv Narayan, Postdoctoral Faculty Sponsor

Research & Scholarship

PROJECTS

- Reconstruction of 12-lead electrocardiograms from implanted device signals using deep learning
- Predicting Dementia risk in patients with Atrial Fibrillation

Publications

PUBLICATIONS

- **Deep Learning-Based Continuous QT Monitoring to Identify High-Risk Prolongation Events After Class III Antiarrhythmic Initiation.** *Circulation*
Ansari, R. A., Bandyopadhyay, S., Trivedi, R. K., Brennan, K. A., Liu, X., Ganesan, P., Hughes, J. W., Perino, A. C., Ashley, E. A., Wang, P. J., Coleman, T., Perez, M. V., Ouyang, et al
2026; 153 (1): 35-46
- **Long-term, ambulatory 12-lead ECG from a single non-standard lead using perceptual reconstruction.** *medRxiv : the preprint server for health sciences*
Bandyopadhyay, S., Chiu, I. M., Ansari, R., Liu, S., Hughes, J. W., Perino, A. C., Bhatia, N. K., Ouyang, D., Ashley, E. A., Perez, M. V., Zou, J., Narayan, S. M., Rogers, et al
2025
- **Perioperative Artificial Intelligence Driven Integrated Modeling of Surgeries using Anesthetic, Physical and Cognitive Statuses for Predicting Hospital Outcomes.** *Research square*
Bandyopadhyay, S., Zhang, J., Ison, R. L., Cherukuvada, B. P., Libon, D. J., Tighe, P., Rashidi, P., Price, C.
2025
- **Deep Learning-Based Continuous QT Monitoring Identifies High-Risk Prolongation Events After Class III Antiarrhythmic Initiation**
Rogers, A., Ansari, R., Bandyopadhyay, S., Trivedi, R., Brennan, K., Ganesan, P., Perino, A., Ashley, E., Wang, P., Perez, M., Ouyang, D., Narayan, S.
LIPPINCOTT WILLIAMS & WILKINS.2025
- **Development of Personalized Myocardial Surface Mesh Models with LGE Scar Integration: a Pipeline for Machine Learning and Digital Twins**
Liu, X., Qayyum, A., Ganesan, P., Bandyopadhyay, S., Somani, S., Brennan, K., Wang, P., Niederer, S., Narayan, S., Rogers, A.
LIPPINCOTT WILLIAMS & WILKINS.2025
- **Abstract 4367773: Predicting Peak Heart Rate from Resting 12-Lead ECGs in Patients Undergoing Stress Testing using Deep Learning**
Liu, X., Bandyopadhyay, S., Ganesan, P., Somani, S., Brennan, K., Karius, A., Baykaner, T., Perino, A., Wang, P., Ashley, E., Perez, M., Narayan, S., Rogers, et al
LIPPINCOTT WILLIAMS & WILKINS.2025
- **AI-based prediction of mortality in patients with ventricular tachycardia**

- Bandyopadhyay, S., Sadri, S., Brennan, K., Ganesan, P., Clopton, P., Ruiperez-Campillo, S., Peralta, E., Sillett, C., Rogers, A., Narayan, S.
LIPPINCOTT WILLIAMS & WILKINS.2025
- **Identifying optimum ECG features to predict sudden cardiac arrest at varying time points before the event**
Bandyopadhyay, S., Ganesan, P., Brennan, K., Ruiperez-Campillo, S., Ansari, R., Clopton, P., Perino, A., Wang, P., Ashley, E., Perez, M., Narayan, S., Rogers, A.
LIPPINCOTT WILLIAMS & WILKINS.2025
 - **Novel Foundation Models for Detecting and Generating Text Reports of Atrial Fibrillation from 12-lead ECGs in a Large Registry**
Ganesan, P., Peralta, E., Ruiperez-Campillo, S., Bandyopadhyay, S., Rogers, A., Chang, H., Brennan, K., Sillett, C., Clopton, P., Perino, A., Niederer, S., Narayan, S.
LIPPINCOTT WILLIAMS & WILKINS.2025
 - **Automated End-to-End Framework for Extracting Raw ECG Waveforms and ST Segment Values from ECG Reports and Predicting ST Elevation by Machine Learning**
Ganesan, P., Liu, X., Bandyopadhyay, S., Ansari, R., Somani, S., Brennan, K., Karius, A., Baykaner, T., Perino, A., Wang, P., Ashley, E., Perez, M., Narayan, et al
LIPPINCOTT WILLIAMS & WILKINS.2025
 - **Non-Contact Magnetocardiography Localizes Atrial Foci as Accurately as High-Resolution Contact ECG**
Brennan, K., Bandyopadhyay, S., Ganesan, P., Ansari, R., Somani, S., Liu, X., Baykaner, T., Perino, A., Wang, P., Narayan, S., Rogers, A.
LIPPINCOTT WILLIAMS & WILKINS.2025
 - **Transformer-based ECG beat foundation model reconstructs full 12-Lead morphology, vectorcardiogram and predicts peak heart rate in stress ECG**
Bandyopadhyay, S., Liu, X., Ganesan, P., Somani, S., Karius, A., Baykaner, T., Wang, P., Ashley, E., Perez, M., Narayan, S., Rogers, A.
LIPPINCOTT WILLIAMS & WILKINS.2025
 - **Longitudinal Evaluation of Anti-Arrhythmic Drug Use to Predict Hospitalization or Death in Patients with Ventricular Tachycardia**
Sadri, S., Brennan, K., Bandyopadhyay, S., Ganesan, P., Desai, Y., Peralta, E., Feng, R., Sillett, C., Ruiperez-Campillo, S., Wang, P., Clopton, P., Rogers, A., Narayan, et al
LIPPINCOTT WILLIAMS & WILKINS.2025
 - **Large Language Models Detect Ventricular Tachycardia Recurrence in Clinical Notes and Enable Prediction of Clinical Outcomes at Scale**
Sadri, S., Brennan, K., Bandyopadhyay, S., Desai, Y., Ganesan, P., Peralta, E., Feng, R., Sillett, C., Ruiperez-Campillo, S., Wang, P., Clopton, P., Rogers, A., Narayan, et al
LIPPINCOTT WILLIAMS & WILKINS.2025
 - **Real-time prediction of intensive care unit patient acuity and therapy requirements using state-space modelling.** *Nature communications*
Contreras, M., Silva, B., Shickel, B., Davidson, A., Ozrazgat-Baslanti, T., Ren, Y., Guan, Z., Balch, J., Zhang, J., Bandyopadhyay, S., Loftus, T., Khezeli, K., Lipori, et al
2025; 16 (1): 7315
 - **Physics-Inspired Diffusion Probabilistic Models for Improved Denoising in Intracardiac Time Series.** *Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual International Conference*
Ruipeze-Campillo, S., Rau, M., Ganesan, P., Brennan, K. A., Feng, R., Bandyopadhyay, S., Rogers, A. J., Narayan, S. M., Vogt, J. E.
2025; 2025: 1-5
 - **CONTINUOUS LONG-TERM QT INTERVAL MONITORING USING SPATIALLY ENCODED DEEP LEARNING OF DERIVED IMPLANTABLE CARDIAC MONITOR SIGNALS**
Ansari, R., Bandyopadhyay, S., Brennan, K., Srivastava, V., Ganesan, P., Feng, R., Baykaner, T., Perez, M., Perino, A., Narayan, S. M., Rogers, A. J.
ELSEVIER SCIENCE INC.2025: 24
 - **LARGE LANGUAGE MODELS IDENTIFY ATRIAL FIBRILLATION PROGRESSION ON UNPRECEDENTED SCALE**
Brennan, K., Feng, R., Goyal, J., Chang, H., Deb, B., Srivastava, V., Ganesan, P., Bandyopadhyay, S., Ansari, R., Ruiperez-Campillo, S., Clopton, P., De Larocheliere, H., Rogers, et al
ELSEVIER SCIENCE INC.2025: 237
 - **Identification of cardiac wall motion abnormalities in diverse populations by deep learning of the electrocardiogram.** *NPJ digital medicine*
Rogers, A. J., Bhatia, N. K., Bandyopadhyay, S., Tooley, J., Ansari, R., Thakkar, V., Xu, J., Soto, J. T., Tung, J. S., Alhusseini, M. I., Clopton, P., Sameni, R., Clifford, et al

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- **Advances in Electrocardiogram-Based Artificial Intelligence Reveal Multisystem Biomarkers.** *Journal of clinical & experimental cardiology*
Liu, X., Bandyopadhyay, S., Rogers, A. J.
2025; 16 (2)
- **ConvexECG: Lightweight and Explainable Neural Networks for Personalized, Continuous Cardiac Monitoring**
Ansari, R., Cao, J., Bandyopadhyay, S., Narayan, S. M., Rogers, A. J., Pilanci, M., IEEE
IEEE.2025
- **APRICOT-Mamba: Acuity Prediction in Intensive Care Unit (ICU): Development and Validation of a Stability, Transitions, and Life-Sustaining Therapies Prediction Model.** *Research square*
Contreras, M., Silva, B., Shickel, B., Davidson, A., Ozrazgat-Baslanti, T., Ren, Y., Guan, Z., Balch, J., Zhang, J., Bandyopadhyay, S., Loftus, T., Khezeli, K., Nerella, et al
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- **Developing a fair and interpretable representation of the clock drawing test for mitigating low education and racial bias.** *Scientific reports*
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- **Transformers and large language models in healthcare: A review.** *Artificial intelligence in medicine*
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- **Wearable sensors in patient acuity assessment in critical care.** *Frontiers in neurology*
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