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## Research Interests

Forensic Science - Fingerprint, Bloodstain Pattern Analysis

Machine Learning, Deep Learning, Optimization

Interdisciplinary research

Statistics

## Qualifications

### Employment

#### College of Engineering and Physical Sciences

Birmingham, United Kingdom

9 Mar 2020 → 31 Dec 2022

#### Research Associate

Computer Science

College of Engineering and Physical Sciences

9 Mar 2020 → 31 Dec 2022

#### Computer Science Research Group

College of Engineering and Physical Sciences

9 Mar 2020 → 31 Dec 2022

#### Aston Institute for Forensic Linguistics

College of Business and Social Sciences

United Kingdom

9 Mar 2020 → 31 Dec 2022

## Research outputs

**A strawman with machine learning for a brain: A response to Biedermann (2022) the strange persistence of (source) "identification" claims in forensic literature**

Morrison, G. S., Ramos, D., Ypma, R. J.F., Basu, N., Bie, K. D., Enzinger, E., Geradts, Z., Meuwly, D., Vloed, D. V. D., Vergeer, P. & Weber, P., May 2022, In: Forensic Science International: Synergy. 4, 100230.

**Forensic comparison of fired cartridge cases: Feature-extraction methods for feature-based calculation of likelihood ratios**  
Basu, N., Bolton-King, R. S. & Morrison, G. S., May 2022, In: Forensic Science International: Synergy. 5, 100272.

**Calculation of likelihood ratios for inference of biological sex from human skeletal remains**

Morrison, G. S., Weber, P., Basu, N., Puch-Solis, R. & Randolph-Quinney, P. S., 27 Sep 2021, In: Forensic Science International: Synergy. 3, 100202.

**Application of Machine Intelligence in Digital Pathology: Identification of Falciparum Malaria in Thin Blood Smear Image**

Nag, S., Basu, N. & Bandyopadhyay, S. K., 12 Dec 2019, *Advancement of Machine Intelligence in Interactive Medical Image Analysis*. Verma, O. P., Roy, S., Pandey, S. C. & Mittal, M. (eds.). 1 ed. Singapore, p. 65-97 33 p. (Advancement of Machine Intelligence in Interactive Medical Image Analysis).

**Critical Analysis of Malaria Parasite Detection Using Machine Learning Technique**

Basu, N. & Nag, S., 1 May 2019, In: Journal of Medical Imaging and Health Informatics. 9, p. 830-837 8 p.

**Identification of Unique Characteristics of Deception from Facial Expression**

Mondal, A., Mukhopadhyay, P., Basu, N., Bandyopadhyay, S. K. & Chatterjee, T., 1 Feb 2018, In: Current Aging Science. 114, 04, p. 901- 906 6 p.

**Hybrid Approach towards Malaria Parasites Detection from Thin Blood Smear Image**

Nag, S., Basu, N. & Bandyopadhyay, S. K., 30 Oct 2017, *Hybrid Intelligent Techniques for Pattern Analysis and Understanding*. Bhattacharyya, S., Mukherjee, A., Pan, I., Dutta, P. & Bhaumik, A. K. (eds.). 1 ed. New York: Taylor & Francis, p. 93-122 30 p.

**Crime scene reconstruction—Sex prediction from blood stained foot sole impressions**

Basu, N. & Bandyopadhyay, S. K., Sep 2017, In: Forensic Science International. 278, p. 156-172 17 p.

**Initial data release of regular blood drip stain created by varying fall height, angle of impact and source dimension**

Basu, N. & Bandyopadhyay, S. K., 1 Sep 2016, In: Data in Brief. 8, p. 1194-1205 12 p.

**2D Source area prediction based on physical characteristics of a regular, passive blood drip stain**

Basu, N. & Bandyopadhyay, S. K., Sep 2016, In: Forensic Science International. 266, p. 39-53 14 p.

**Optimization of Crime Scene Reconstruction Based on Bloodstain Patterns and Machine Learning Techniques**

Bandyopadhyay, S. K. & Basu, N., 2016, *Handbook of Research on Natural Computing for Optimization Problems*. Mandal, J. K., Mukhopadhyay, S. & Pal, T. (eds.). IGI Global, p. 960-988 28 p.