Ryoma Otsuka 大塚 亮真

Website | GitHub | Google Scholar | researchmap |

Research Interests

bio-logging, machine learning, deep learning, behaviour recognition/classification, time-series sensor data analysis, mountain gorillas, conservation, wildlife tourism

Work Experience

2022-Present	Graduate School of Information Science and Technology, Osaka University Specially Appointed Assistant Professor 大阪大学情報科学研究科 マルチメディア工学専攻 特任助教
2021-2022	Wildlife Research Center, Kyoto University (Postdoctoral Researcher) 京都大学 野生動物研究センター 研究員（非常勤） Center for African Area Studies, Kyoto University (Postdoctoral Researcher) 京都大学 アフリカ地域研究資料センター 研究員（非常勤）

Education

Ph.D. 2016-2021	Graduate School of Asian and African Area Studies (5-year system), Kyoto University, Japan | Ph.D. (Area Studies) | 京都大学大学院アジア・アフリカ地域研究研究科（5 年一貫制） アフリカ地域研究専攻 博士（地域研究）（2021 年 3 月 23 日）
B.Sc. 2012-2016	Faculty of Agriculture, Kyoto University, Japan | B.Sc. (Agriculture) | 京都大学農学部資源生物科学科（2016 年 3 月 24 日）

Research Skills

- Arduino (or C/C++): to develop custom-made bio-logging devices with AI on-board
- Python: machine learning (scikit-learn), deep learning (PyTorch), Bayesian statistical analysis, time-series data analysis, data visualization
- R: Bayesian statistical analysis (RStan), data visualization
- Fieldwork (Bwindi in Uganda, Aomori, Niigata and Nagasaki in Japan)

In Prep. Manuscripts

(In Prep.) Otsuka, R., et al. (TBA). Playback experiment on a biologging device with AI.

Submitted Manuscripts

(Under Review) Otsuka, R., et al. (TBA). TBA.
XXX. https://doi.org/xx.xxxxx/xxx/xxxx [bioRxiv]

Peer-Reviewed Publications

Otsuka, R., Yoshimura, N., Tanigaki, K., Koyama, S., Mizutani, Y., Yoda, K., & Maekawa, T. (2024). Exploring deep learning techniques for wild animal behaviour classification using animal-borne accelerometers. ***Methods in Ecology and Evolution***, 15(4), 716–731. https://doi.org/10.1111/2041-210X.14294

Tanigaki, K., Otsuka, R., Li, A., Hatano, Y., Wei, Y., Koyama, S., Yoda, K., & Maekawa, T. (2024). Automatic recording of rare behaviors of wild animals using video bio-loggers with on-board light-weight outlier detector. ***PNAS Nexus***, 3(1), gad447. https://doi.org/10.1093/pnasnexus/pgad447

Sekino, A., Otsuka, R., & Yasuoka, H. (2023). Haphazard Sharing of Plant Food among the Baka Hunter-Gatherers in Southeast Cameroon. ***African Study Monographs****. Supplementary Issue.*, 62, 81–103. https://doi.org/10.14989/286829

Maekawa, T., Xia, Q., Otsuka, R., Yoshimura, N., & Tanigaki, K. (2023). Recent Trends in Sensor-based Activity Recognition. ***2023 24th IEEE International Conference on Mobile Data Management (MDM)***, 36–38. https://doi.org/10.1109/MDM58254.2023.00018

Otsuka, R., Yamakoshi, G., & Kalema-Zikusoka, G. (2023). Tourist expectations and satisfaction in mountain gorilla tourism in Bwindi Impenetrable National Park, Uganda. ***Journal of Ecotourism***, *22*(2), 329–338. https://doi.org/10.1080/14724049.2023.2166056

Hongo, S., Dzefack, Z. C. B., Vernyuy, L. N., Minami, S., Mizuno, K., Otsuka, R., Hiroshima, Y., Djiéto-Lordon, C., Nakashima, Y., & Yasuoka, H. (2022). Predicting bushmeat biomass from species composition captured by camera traps: Implications for locally based wildlife monitoring. ***Journal of Applied Ecology***, *59*(10), 2567–2580. https://doi.org/10.1111/1365-2664.14257

Kano, F., Furuichi, T., Hashimoto, C., Krupenye, C., Leinwand, J. G., Hopper, L. M., Martin, C. F., Otsuka, R., & Tajima, T. (2022). What is unique about the human eye? Comparative image analysis on the external eye morphology of human and nonhuman great apes. ***Evolution and Human Behavior***, *43*(3), 169–180. https://doi.org/10.1016/j.evolhumbehav.2021.12.004

(in Japanese) 山梨裕美, 徳山奈帆子, 竹ノ下祐二, 大塚亮真, 森村成樹, 赤見理恵. (2021) 大型類人猿と人の関わりの変遷: 過去・現在・そして未来に向けて. ***霊長類研究*** *https://doi.org/10.2354/psj.37.046*

Costa, R., Tomonaga, M., Otsuka, R., Huffman, M. A., Bercovitch, F., Kalema-Zikusoka, G., & Hayashi, M. (2021). The dispersal dilemma among female mountain gorillas: Risk infanticide and gain protection. ***African Journal of Ecology***, 59(1), 273–276. https://onlinelibrary.wiley.com/doi/10.1111/aje.12824

Hanya, G., Tackmann, J., Sawada, A., Lee, W., Pokharel, S. S., de Castro Maciel, V. G., Toge, A., Kuroki, K., Otsuka, R., Mabuchi, R., Liu, J., Hatakeyama, M., Yamasaki, E., von Mering, C., Shimizu-

Inatsugi, R., Hayakawa, T., Shimizu, K. K., & Ushida, K. (2020). Fermentation Ability of Gut Microbiota of Wild Japanese Macaques in the Highland and Lowland Yakushima: In Vitro Fermentation Assay and Genetic Analyses. ***Microbial Ecology***, 80(2), 459–474. https://dx.doi.org/10.1007/s00248-020-01515-8

Otsuka, R., & Yamakoshi, G. (2020). Analyzing the popularity of YouTube videos that violate mountain gorilla tourism regulations. ***PLoS ONE***, 15(5), e0232085. https://dx.plos.org/10.1371/journal.pone.0232085

Grants and Fellowships

2016-2021 Leading Graduate Program in Primatology and Wildlife Science, Kyoto University ($9,090 annually, rate: 1 USD = 110 JPY)
京都大学霊長類学・ワイルドライフサイエンス・リーディング大学院（特別履修）（年間 約 100 万円）

2018-2021 Doctoral Course Student (DC1) Research Fellowship, Japan Society of the Promotion of Science (JSPS) (Grant Number: 18J22882) ($85,454, rate: 1 USD = 110 JPY)
日本学術振興会特別研究員 DC1（課題番号: 18J22882）「マウンテンゴリラの住民参加型保全とエコツーリズムの持続可能性に関する研究」（940 万円）

Invited Talks

TBA

Selected Presentations

TBA

Teaching and Mentoring

Guest Lectures

2021 Area Studies and Tourism in Africa (June 7th) - Hannan University
阪南大学　アフリカの地域と観光（6 月 7 日）

2021 Environmental Anthropology (July 27th) - Ryukoku University
龍谷大学　環境人類学（7 月 27 日）

2021 Biology B (November 4th) - Chukyo University
生物学 B（11 月 4 日）中京大学

2021 Anthropology of Tourism (November 5th) - Rikkyo University
立教大学 観光人類学 8（生態）（11 月 5 日）

Mentorship

2022-present TBA
2023-present TBA

Society Membership

British Ecological Society

Review Experience

Movement Ecology, Primates, Journal of Ecotourism

Outreach

TBA