

Acknowledgements

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Checklist

1. For all authors...
 - (a) Do the main claims made in the abstract and introduction accurately reflect the paper's contributions and scope? [\[Yes\]](#)
 - (b) Did you describe the limitations of your work? [\[Yes\]](#) In Section 6
 - (c) Did you discuss any potential negative societal impacts of your work? [\[Yes\]](#) In Section 6
 - (d) Have you read the ethics review guidelines and ensured that your paper conforms to them? [\[Yes\]](#)
2. If you are including theoretical results...
 - (a) Did you state the full set of assumptions of all theoretical results? [\[N/A\]](#)
 - (b) Did you include complete proofs of all theoretical results? [\[N/A\]](#)
3. If you ran experiments (e.g. for benchmarks)...
 - (a) Did you include the code, data, and instructions needed to reproduce the main experimental results (either in the supplemental material or as a URL)? [\[Yes\]](#) URL is in Section 6
 - (b) Did you specify all the training details (e.g., data splits, hyperparameters, how they were chosen)? [\[Yes\]](#) In section 4 and URL to code with these details is in Section 6
 - (c) Did you report error bars (e.g., with respect to the random seed after running experiments multiple times)? [\[Yes\]](#) In Table 3
 - (d) Did you include the total amount of compute and the type of resources used (e.g., type of GPUs, internal cluster, or cloud provider)? [\[N/A\]](#) These models can be run on a basic laptop

- 389 4. If you are using existing assets (e.g., code, data, models) or curating/releasing new assets...
- 390 (a) If your work uses existing assets, did you cite the creators? [N/A]
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- 392 (c) Did you include any new assets either in the supplemental material or as a URL? [N/A]
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- 394 (d) Did you discuss whether and how consent was obtained from people whose data you're
- 395 using/curating? [N/A]
- 396 (e) Did you discuss whether the data you are using/curating contains personally identifiable
- 397 information or offensive content? [N/A]
- 398 5. If you used crowdsourcing or conducted research with human subjects...
- 399 (a) Did you include the full text of instructions given to participants and screenshots, if
- 400 applicable? [Yes] In Section 3.2 and Figure 1
- 401 (b) Did you describe any potential participant risks, with links to Institutional Review
- 402 Board (IRB) approvals, if applicable? [Yes] In 3 and Figure 1.
- 403 (c) Did you include the estimated hourly wage paid to participants and the total amount
- 404 spent on participant compensation? [Yes] In Section 3.2

405 A Appendix

406 A.1 DepreST-CAT data documentation and intended uses

407 The DepreST-CAT dataset contains retrospectively collected smartphone logs and survey responses
 408 from 369 crowd-sourced workers during the COVID-19 pandemic. The logs are labeled with PHQ-9
 409 and GAD-7 scores. The data is available under a CC BY-NC-SA liscence. This data can be used by
 410 academics to model communication patterns during COVID-19 or further the development of passive
 411 screening technologies.

412 The DepreST-CAT dataset is stored as CSV files. There are five main data files: summaryDepreST-
 413 CAT2021, surveysDepreST-CAT, callLogsDepreST-CAT2021, textLogsDepreST-CAT2021, and
 414 addressBookDepreST-CAT. The participant ids can be used to match data across the all CSV files.

415 The summary file contains the number of incoming, outgoing, and all texts and calls for each par-
 416 ticipant. In addition, the PHQ-9 score, GAD-7 score, number of calendar logs, and the number of
 417 contact logs (in the contact/address book) for each participant. The surveys file contains the demo-
 418 graphic information, the 16 individual screening question scores, and the timestamp the participant
 419 participated in the study.

420 The log files have one row for every log. For the call logs, the available information include the
 421 call direction, the call duration in seconds, the Unix timestamp of the call, and the one-way hashed
 422 number of the contact involved in the call. For the text logs, the available information include the
 423 Unix timestamp of the text, the direction of the text, and the one-way hashed number of the contact
 424 involved in the text exchanged. The contact/address file contains the one-way hashed number of
 425 every contact stored in the phone contact/address book. The one-way hashed numbers of the contacts
 426 can be connected across all three log files.

427 We also provide the time series, feature sets, and results generated for this paper. These CSV files
 428 are stored in their respective folders. For the time series file names, a 1 is indicative of incoming
 429 communications and a 2 is indicative of outgoing communications. These files contain the number of
 430 texts or seconds of call every day from day 0 (when the participant completed the collection) to 111
 431 days prior to participation in the collection. For the results file names, split refers to the PHQ-9 or
 432 GAD-7 cutoff used during classification.

433 A.2 Data and code access

434 As noted in Section 6, the DepreST-CAT dataset, relevant code, and baseline mental illness screening
 435 results are available at github.com/mltlachac/DepreST-CAT. The dataset is available for aca-
 436 demic use under a CC BY-NC-SA license. Upon publication, we will add the below data description
 437 to the GitHub README file and link the GitHub repository with the data through our project website

438 for greater access. We have spoken with our institutional library about obtaining a DOI for the
439 DepreST-CAT dataset upon publication.

440 **A.3 Hosting, licensing, and maintenance plan.**

441 **Data description and formats**

442 The Depression Stereotype Threat Call and Text Log (DepreST-CAT) dataset contains data submitted
443 by 369 crowdsourced participants between December 2020 and April 2021. The data includes
444 retrospective smartphone logs (text logs, call logs, calendar logs, contact logs), demographics, and
445 mental illness screening survey scores (PHQ-9 and GAD-7). The important values were extracted
446 from the logs for convenience. All data is stored in CSV files.

447 **Data archiving, access and sharing, and data preservation**

448 The anonymized data is available through a public GitHub repository. In addition to the security in
449 place by GitHub, the data will be stored in the file systems of Worcester Polytechnic Institute (WPI).
450 The stored data will be protected with disk mirroring, daily backups and other means. Full-time
451 system administrators will monitor the security and availability of these systems. Appropriate access
452 control and other security policies and mechanisms will be put in place to protect the integrity,
453 security, privacy, confidentiality and other rights or requirements. For access by and sharing with the
454 greater research community and general public, the research group websites will be used, and can be
455 updated to reflect any new publicly available data storage locations. Further, the backup stored by
456 WPI will be used to restore the GitHub repository if required.

457 **Data privacy**

458 Data will be shared only under rules specified by our IRBs, and only when properly anonymized.
459 The systems on which the data will be stored will have access restricted to the project members via
460 standard filesystem permissions management. The server on which the data is stored is within the
461 University's restricted access datacenter. Files that will be made publicly available will not contain
462 any identifiable location information.

463 **Policies and provisions for re-use, re-distribution**

464 Any data collected will be in compliance with the IRB protocols of Worcester Polytechnic Institute.
465 Data gathered for this project may be reused in other, related, research projects conducted by the PIs
466 or graduate students. It is expected that other researchers in machine learning in mental health would
467 be interested in our dataset and is available under a Attribution-NonCommercial-253ShareAlike
468 (CC BY-NC-SA) license. This datasets cannot be used for commercial applications or purposes, or
469 changed and resubmitted without the PIs' permission and are subject to the intellectual property
470 policies of WPI.

471 **Rights and Obligations**

472 The Principal Investigators (PIs) will be responsible for the implementation of the Data Manage-
473 ment Plan. WPI owns the technology developed at each individual university by each university's
474 employees.

475 **A.4 Author statement**

476 We, the authors of this manuscript, verify that:

- 477 1. The article is original, has not been formally published in any other peer-reviewed journal
478 or a book or edited collection, and is not under consideration for any such publication.
- 479 2. We are the sole authors of the article, and that we have a complete and unencumbered right
480 to release this dataset, code, and manuscript.
- 481 3. We have carefully curated the dataset to ensure that it contains no personally identifiable
482 information and therefore does not pose privacy risks to any participants.
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484 statutory or common-law rights of anyone, and that we have made all reasonable efforts to
485 ensure the accuracy of any factual information contained in the article.