Jordan Mark **Barbone, M.A.**

Data Scientist, R Developer

West Chester, PA

☐ +1 610 675 8922 | ✉ jmbarbone@gmail.com; jbarbone@cogstate.com | ⌂ jmbarbone.github.io | ☐ jmbarbone | ☐ jmbarbone

R programmer with experience in statistical programming, monitoring, and report automation in cognitive and CNS clinical trials

Skills

R - Advanced	package development, data analysis, statistical programming, data visualization, ETL/Data integration, tidyverse (dplyr, ggplot2, purrr, tidyr, devtools, etc), Rmarkdown
Other programming experience	Intermediate: Python Basic: SQL, Git, SAS, cmd, Rust
Clinical trials	clinical data management programming, centralized monitoring, eCOA, data review, Rater training and qualification
Psychology	behavioral statistics, research methods, cognitive psychology, learning psychology

Experience

Data Scientist
New Haven, CT (Remote)

COGSTATE — *Jun 2021 - Present*

- Tasked with building, developing, deploying and maintaining databases, data models, reporting systems, data automation systems, dashboards and performance metrics, supporting key business needs.
- Build, develop, deploy, maintain data models, reporting systems, data automation systems, dashboards and performance metrics
- Support the creation of data visualization tools, Statistical Analysis Plans, research, scientific publications
- Collaborate with business development science, scientific services, project management, scales management, statistics, and data management teams internally, and external collaborators, to support data related processes and questions.
- Information in preparation for interactions with auditors
- Interact with sponsors to resolve scientific queries and participate in study planning.
- Interact with project management, scales management, statistics, and data management teams internally to support scientific processes and questions.
- Write clinical study reports, analytic reports, and business requirement documents.
- Drive research, including scientific publications, trial outcome measures, rater training, and trial methodology.

Principal Data Analyst
Conshohocken, PA

MADRIGAL PHARMACEUTICALS, LLC — *Dec 2019 - Jun 2021*

- Developed, analysed scripts and packages in R; developed custom functions, analytic packages for creation of daily metrics and reports; unit testing, documentation; maintained source code control
- Aggregated and organized data sources in STDM, ADaM, TFLS, and pre-finalized formats; compiled source data from multiple vendor data bases and reports; reconciled differences between databases
- Analyzed efficacy, safety, and exploratory data for: ongoing phase 3 studies in NASH and NAFLD; ad hoc analyses for phase 2; biomarker and PRO
- Used, reviewed, and reported on statistical testing such as: ANCOVA, LS-Means, ROC, Kruskal-Wallis, Wilcoxon rank sum, t-test, correlations (Pearson product, Spearman rho, Kendall's tau)
- Trained and onboarded data analyst

Clinical Data Scientist
Wayne, PA

SIGNANT HEALTH (FORMERLY BRACKET AND CRF HEALTH) — *Jan 2019 - Nov 2019*

- Interacted with and analyzes CNS, psychiatry, and neurology clinical trial data quality and outcomes information for clinical insights
- Developed and implemented new data products and deliverables for blinded, statistical data monitoring and review; maintained and enhanced current data products; advised new analytic and machine learning initiatives; identified data sources and aggregation processes; defined and updated processes for deliverables; point of contact for analytic deliverables; presented information using data visualization techniques.
- Reviewed and developed analyses with SME for detection of errors for study endpoints; collaborated with review of analytic findings
- Trained and supervised of Data Scientists; developed and provided training for new and current processes, programming, and technologies/software; lead, organized team meetings and status updates; wrote and reviewed new process documentation.
- Assisted Program Managers and Project Delivery Managers for process implementation for data products and deliverables for blinded, statistical data monitoring and review; provided consultation for programming and development for Clinical Data Management; liaised between Data Services and Clinical Science teams; provided analytic and research support for Clinical Science.

Clinical Data Specialist
Wayne, PA

BRACKET · *Jan 2018 - Dec 2018*

- Interacted with and analyzes CNS, psychiatry, neurology clinical trial data quality and outcomes information for clinical insights; collaborated with other Bracket stakeholders and teams to execute and provide ongoing analysis related to study deliverables or internal needs.
- Developed training material development and QC; performed data review, eCOA user acceptance testing; study staff contact, sponsor contact, contact with outside experts, report writing.
- Maintained, classified clinical information/materials; reviewed scale administration/scoring; provided clinical feedback, remediation for raters.

Clinical Associate
Wayne, PA

BRACKET · *May 2016 - Dec 2017*

- Participated in applicable aspects of clinical content development and delivery, including training material development and QC, data review, eCOA user acceptance testing, study staff contact, sponsor contact, contact with outside experts, and report writing
- Maintained, classified clinical information/materials for CNS, psychiatry, neurology clinical trials
- Provided data review for Bracket's Endpoint Reliability programs; clinical analysis on study endpoint data for administration and scoring calibration to standard training principles; and provided remediation as needed to recalibrate to study standards.

Clinical Assistant
Wayne, PA

BRACKET · *Aug 2015 - May 2016*

- Developed object specific video material, clinical content for training and qualification programs for study staff in clinical trials; addressed and reviewed data quality issues; clinical scheduling; ensured compliance with quality assurance, participate in reporting, analysis activities and research activities (e.g., collection and dissemination of literature and/or data); prepared reports of clinical activities.

Writing Tutor
224 Lawrence Center, West Chester, PA 19383

LEARNING ASSISTANCE & RESOURCE CENTER · *Aug 2014 - May 2015*

- Tutored in 1-2 person sessions to develop skills necessary for effective writing, as well promoted independent and active learning.
- Monitored efficiency of the Academic Development Program and growth of students through maintaining daily session activity logs, utilizing Bloom's Taxonomy, biweekly student reports, and semester evaluations.

Education

Master of Arts
West Chester, PA

WEST CHESTER UNIVERSITY OF PENNSYLVANIA · *Aug 2017 - May 2019*

- General Psychology, Advisor: Geeta Shivde, Ph.D.
- Thesis: The effects of participant-selected background music on executive function task performance
- GPA: 4.00

Non-degree Graduate Student
West Chester, PA

WEST CHESTER UNIVERSITY OF PENNSYLVANIA · *Aug 2016 - Jun 2017*

- Classes in Statistics, Research Methods, and Psychometrics
- GPA: 4.00

Bachelor of Arts
West Chester, PA

WEST CHESTER UNIVERSITY OF PENNSYLVANIA · *Aug 2011 - May 2015*

- Major in Psychology, Minor in Biology
- Cumulative GPA: 3.470, Major GPA: 3.834

Tutoring

Effective Writing
West Chester, PA

LEARNING ASSISTANCE AND RESOURCE CENTER, WEST CHESTER UNIVERSITY OF PENNSYLVANIA · *Aug 2014 - May 2015*

Psychology of Learning
West Chester, PA

PSI CHI, PSYCHOLOGY DEPARTMENT, WEST CHESTER UNIVERSITY OF PENNSYLVANIA · *Aug 2014 - May 2015*

Introduction to Biopsychology
West Chester, PA

PSYCHOLOGY DEPARTMENT, WEST CHESTER UNIVERSITY OF PENNSYLVANIA · *Aug 2014 - Dec 2014*

Biopsychology of Motivation & Emotion
West Chester, PA

PSYCHOLOGY DEPARTMENT, WEST CHESTER UNIVERSITY OF PENNSYLVANIA · *Aug 2014 - Dec 2014*

Behavioral Statistics
West Chester, PA

WEST CHESTER UNIVERSITY OF PENNSYLVANIA · *Aug 2014 - May 2015*

Research Methods in Psychology
West Chester, PA

WEST CHESTER UNIVERSITY OF PENNSYLVANIA · *Aug 2014 - May 2015*

Papers

Peer Reviewed Publications

Younossi, Z. M., Stepanova, M., Taub, R. A., **Barbone, J. M.**, & Harrison, S. A. (2021). Hepatic fat reduction due to resmetirom in patients with nonalcoholic steatohepatitis is associated with improvement of quality of life. *Clinical Gastroenterology and Hepatology*. `https://doi.org/10.1016/j.cgh.2021.07.039`

Solomon, T. M., **Barbone, J. M.**, Feaster, H. T., Miller, D. S., deBros, G. B., Murphy, C. A., & Michalczuk, D. (2019). Comparing the standard and electronic versions of the Alzheimer's disease assessment scale—cognitive subscale: A validation study. *The Journal of Prevention of Alzheimer's Disease*, *6*(4), 237–241. `https://doi.org/10.14283/jpad.2019.27`

Irani, F., **Barbone, J. M.**, Beausoleil, J., & Gerald, L. (2017). Is asthma associated with cognitive impairments? A meta-analytic review. *Journal of Clinical and Experimental Neuropsychology*, *39*(10), 965–978. `https://doi.org/10.1080/13803395.2017.1288802`

Master's Thesis

Barbone, J. M. (2019). *The effects of participant-selected background music on executive function task performance* [Master's thesis, West Chester University of Pennsylvania]. `https://doi.org/10.13140/RG.2.2.34109.41446`

Posters and presentations

Cogstate - Digital cognition

Edgar, J., Chri, Maruff, P., Harrison, J. E., **Barbone, J. M.**, Leventhal, R., & Alam, J. j. (2022). Validity and reliability of a composite cognitive outcome measure for clinical trials in dementia with lewy bodies. *Poster Presented at the ADPD Conference, Barcelona, Spain. Video: Https://Youtu.be/N8TbGImGV5U.* `https://www.cogstate.com/wp-content/uploads/2022/04/00171-Validity-and-reliability-of-a-composit d273-Read-Only.pdf`

Wacker, S., & **Barbone, J. M.** (2022). Rater perspectives on Applied Training of cognitive clinical outcome assessments, delivered by Neuropsychology experts. *Poster Presented at AAIC, San Diego, California, USA.* `https://www.cogstate.com/wp-content/uploads/2022/08/Rater-Perspectives-on-Applied-Traini pdf`

Madrigal - Liver disease

Harrison, S. A., Taub, R. A., Karsdal, er, As, M., Franc, J., Bashir, tafa, Mu, **Barbone, J. M.**, Neff, G., Gunn, N. T., & Moussa, S. (2020, November). Algorithm for predicting advanced NASH fibrosis on screening biopsy in resmetirom phase 3 MAESTRO-NASH clinical trial. *Poster Presented at the AASLD Liver Meeting Digit Experience Conference.*

Younossi, Z. M., Stepanova, M., Taub, R. A., **Barbone, J. M.**, Moussa, S., & Harrison, S. A. (2020, November). Improvement of health-related quality of life is associated with improvement of fat fraction by MRI-PDFF in patients with nonalcoholic steatohepatitis treated with resmetirom. *Poster Presented at the AASLD Liver Meeting Digit Experience Conference.*

Harrison, S. A., Taub, R., **Barbone, J. M.**, Franc, J., & Karsdal, M. A. (2020, March). Resmetirom, a beta selective thyroid hormone receptor agonist, reduces net collagen III deposition in nonalcoholic Steatohepatitis. *Poster to Have Been Presented at American Association for the Study of Liver Diseases (AASLD) Emerging Topic Conference 2020, Nuclear Receptors in Nonalcoholic Fatty Liver Diseases (Conference Cancelled).*

Signant Health (Bracket) - eCOA data quality

Solomon, T. M., Feaster, H. T., **Barbone, J. M.**, & Miller, D. S. (2017, November). Utilizing audio review to improve ADCS-ADL data quality. *Poster Presented at Clinical Trials on Alzheimer's Disease Conference (CTAD), Boston, MA, USA.* `https://bit.ly/3mlKuOc`

Barbone, J. M., Solomon, T. M., Feaster, H. T., Garcia-Valdecasas-Colell, M., & Miller, D. S. (2018, October). MMSE screening data quality for Alzheimer's disease studies across countries. *Presented at the 11th*

Clinical Trials on Alzheimer's Disease (CTAD), Barcelona, Spain. `https://doi.org/10.13140/RG.2.2.27921.68966`

Garcia-Valdecasas-Colell, M., **Barbone, J. M.**, Solomon, T. M., Feaster, H. T., & Tott, N. (2018, October). Identifying impact of rater change on MMSE and CDR data in multi-national Alzheimer's disease clinical trials. *Presented at the 11th Clinical Trials on Alzheimer's Disease (CTAD), Barcelona, Spain*. `https://doi.org/10.13140/RG.2.2.21210.80327`

Wessels, A. M., **Barbone, J. M.**, DiGregorio, D. T., Miller, D. S., Mullen, J. A., Sims, J. R., & Solomon, T. M. (2018, October). Lanabecestat- Rater performance and error characteristics of efficacy assessments in the DAYBREAK-ALZ study. *Presented at the 11th Clinical Trials on Alzheimer's Disease (CTAD), Barcelona, Spain*. `https://bit.ly/32pl8au`

Enger, B., & **Barbone, J. M.** (2017, October). Distribution of performance and incorrect rantings in qualification video scoring. *Poster Presented at CNS Summit, Boca Raton, FL, USA*. `https://doi.org/10.13140/RG.2.2.14096.46088`

Solomon, T. M., **Barbone, J. M.**, Karas, S. M., & Feaster, H. T. (2017, October). Longitudinal impact of audio review on data quality. *Poster Presented at Clinical Trials on Alzheimer's Disease Conference (CTAD), Boston, MA, USA*. `https://bit.ly/2DYaFtd`

Roy, M., Brown, J., Hong, B., Benecke, R., Chen-Tackett, Z., Zhou, W., **Barbone, J. M.**, Feaster, H. T., & Sachs, G. (2020, September). eCOA prompted MADRS interview: Balancing through assessment and efficiency. *Poster Presented at ISCTM*.

Solomon, T. M., Feaster, H. T., Karas, S. M., Garcia-Valdecasas, M., **Barbone, J. M.**, DiGregorio, D. T., DeBonis, D., & Miller, D. S. (2019, July). The evolution of technology in data quality programs for Alzheimer's disease clinical trials: What have we learned and where are we going. *Poster Presented at the Alzheimer's Association International Conference (AAIC), Los Angeles, CA, USA*. `https://doi.org/10.1016/j.jalz.2019.06.4332`

Feaster, H. T., **Barbone, J. M.**, Garcia-Valdecasas-Colell, M., & Solomon, T. M. (2018, July). Electronic ADAS-Cog (eADAS-Cog) data quality: How do countries compare? *Poster Presented at the 2018 Alzheimer's Association International Conference, Chicago, IL, USA*. `https://doi.org/10.1016/j.jalz.2018.06.1373`

Karas, S. M., **Barbone, J. M.**, DeBonis, D., & Solomon, T. M. (2018, July). The use of statistical modeling to complement data quality programs. *Poster Presented at the 2018 Alzheimer's Association International Conference, Chicago, IL, USA*. `https://doi.org/10.1016/j.jalz.2018.06.066`

Solomon, T. M., Karas, S. M., **Barbone, J. M.**, DiGregorio, D. T., Miller, D. S., & Feaster, H. T. (2018, July). Analysis of the rates and types of errors on the enhanced eCOA version of the Alzheimer's Disease Assessment Scale - Cognitive subscale and Mini-mental State Examination used in dementia clinical trials. *Poster Presented at the 2018 Alzheimer's Association International Conference, Chicago, IL, USA*. `https://doi.org/10.1016/j.jalz.2018.06.070`

Feaster, H. T., Solomon, T. M., Abi-Saab, D., Vogt, A., **Barbone, J. M.**, Harrison, J., & Miller, D. S. (2017, July). The impact of electronic clinical outcome assessments (eCOA) on Alzheimer's disease clinical trial data quality. *Poster Presented at the Alzheimer's Association International Conference, London, England, UK*. `https://doi.org/10.1016/j.jalz.2017.06.1828`

Feaster, H. T., **Barbone, J. M.**, Miller, D. S., & Solomon, T. M. (2019, June). Rater remediation on the ADAS-cog leads to longitudinal improvement in clinical trial data quality. *Poster Presented at the Alzheimer's Association International Conference (AAIC), Los Angeles, CA, USA*. `https://doi.org/10.1016/j.jalz.2019.06.3923`

Karas, S. M., **Barbone, J. M.**, Solomon, T. M., Hong, B., & Feaster, H. T. (2019, June). Impact of data quality programs on MMSE inclusion criteria in Alzheimer's disease clinical research trials. *Poster Presented at the Alzheimer's Association International Conference (AAIC), Los Angeles, CA, USA*. `https://doi.org/10.1016/j.jalz.2019.06.862`

Solomon, T. M., **Barbone, J. M.**, Miller, D. S., & Feaster, H. T. (2018, June). Pilot validation of an Electronic Alzheimer's Disease Assessment Scale - Cognitive Subscale (eADAS-Cog). *Poster Presented at the*

2018 Alzheimer's Association International Conference, Chicago, IL, USA. `https://doi.org/10.1016/j.jalz.2018.06.719`

Butler, A., Feaster, H. T., Miller, D. S., & **Barbone, J. M.** (2017, May). Using iterative user experience design to improve electronic clinical outcomes assessment data quality. *Presented at the ISPOR 22nd Annual International Meeting, Boston, MA, USA.* `https://bit.ly/3isANeP`

Crittenden, K., Machizawa, S., Feaster, H. T., **Barbone, J. M.**, Hong, B., Verma, P., & Zhou, W. (2020, April). Cross-cultural differences in PANSS item ratings: Comparisons of six geo-cultural regions. *Poster Presented at the 2020 Schizophrenia International Research Society (SIRS) Conference, Florence, Italy.* `https://doi.org/10.1093/schbul/sbaa031.103`

Seichepine, D. R., Solomon, T. M., Jacobs, E. B., **Barbone, J. M.**, DiGregorio, D. T., & Miller, D. S. (2018, February). Comparison between "flat" and "enhanced" eCOA of MMSE Attention and Calculation in clinical trials of Alzheimer's disease. *Presented at the ISCTM 14th Annual Scientific Meeting, Washington, D.C., USA.* `https://doi.org/10.13140/RG.2.2.16193.61289`

WCUPA - Asthma and music cognitive

Barbone, J. M. (2018, November). Trends in self-reported use of music while studying: Implications for research. *Poster Presented at the Research and Creative Activity Day at West Chester University, West Chester, PA, USA.* `https://doi.org/10.13140/RG.2.2.14075.57124`

Irani, F., **Barbone, J. M.**, & Beausoleil, J. (2015, August). The impact of asthma on cognitive functioning. *Paper Presented at the American Psychological Association Convention, Toronto, Canada.*

Barbone, J. M., Saxena, S., & Irani, F. (2015, July). Does asthma effect neuropsychological performance? A meta-analysis. *Poster Presented at the American Psychological Association Convention, Toronto, Canada.*

Barbone, J. M., & Shivde, G. (2019, May). The effects of participant selected background music on executive task performance. *Poster Presented at the Association for Psychological Science, Washington, D.C., USA.* `https://doi.org/10.13140/RG.2.2.26125.79842`

Mulligan, R. D., **Barbone, J. M.**, Saxena, S., Carey-Jr, D., Clappsy, J., & Irani, F. (2015, March). Asthma cognition data collection. *Poster Presented at the West Chester University Psychology Research Day, West Chester, PA, USA.* `https://bit.ly/2ZAD5kn`

Barbone, J. M., Saxena, S., & Irani, F. (2015, February). Neuropsychological performance in individuals with asthma: Two meta-analyses. *Poster Presented at the Eastern Psychological Association Conference, Philadelphia, PA, USA.* `https://bit.ly/3hu6JOi`

Extracurricular activities

Chapter Graduate Liaison   *West Chester, PA*
Psi Chi Chapter, Psychology Department, West Chester University of Pennsylvania   *Dec 2017 - May 2019*

Graduate Member   *West Chester, PA*
Psi Chi Chapter, Psychology Department, West Chester University of Pennsylvania   *Aug 2017 - Dec 2017*

Peer Mentor   *West Chester, PA*
West Chester University of Pennsylvania   *Jan 2015 - May 2015*

Chapter Secretary   *West Chester, PA*
Psi Chi Chapter, Psychology Department, West Chester University of Pennsylvania   *May 2014 - May 2015*

Club Publicity Chair   *West Chester, PA*
West Chester University of Pennsylvania   *May 2014 - May 2015*

Student Member   *West Chester, PA*
Student Life Committee, Psychology Department, West Chester University of Pennsylvania   *Sep 2013 - May 2014*

Undergraduate Member   *West Chester, PA*
Psi Chi Chapter, Psychology Department, West Chester University of Pennsylvania   *Mar 2013 - May 2014*

Undergraduate Member   *West Chester, PA*
West Chester University of Pennsylvania   *Aug 2012 - May 2014*

Awards

Employee Recognition Award

COGSTATE, LTD *Nov 2021*
- Modeling one of Cogstate values through significant achievement: Lead with Science

WCUPA Psychology Service Award *West Chester, PA*

PSYCHOLOGY DEPARTMENT, WEST CHESTER UNIVERSITY OF PENNSYLVANIA *Apr 2015*
- Dedicated service to the Psychology Department through positions in undergraduate club, a student-faculty committee, and the honor society

Psychology Research Achievement Award *West Chester, PA*

PSYCHOLOGY DEPARTMENT, WEST CHESTER UNIVERSITY OF PENNSYLVANIA *Apr 2015*
- Involvement in research activities, poster presentations, and work on conducting and reporting on a meta-analysis for publication

CRLA Certified Tutor Level II *West Chester, PA*

LEARNING ASSISTANCE AND RESOURCE CENTER, WEST CHESTER UNIVERSITY OF PENNSYLVANIA *Apr 2015*
- Successfully completed standardized CRLA training for tutors

Dean's List *West Chester, PA*

COLLEGE OF ARTS AND SCIENCES, WEST CHESTER UNIVERSITY OF PENNSYLVANIA *Dec 2014*
- Completed 12 or more graded hours in an academic semester and achieve a semester GPA of 3.670 or better

CRLA Certified Tutor Level II *West Chester, PA*

LEARNING ASSISTANCE AND RESOURCE CENTER, WEST CHESTER UNIVERSITY OF PENNSYLVANIA *Dec 2014*
- Successfully completed standardized CRLA training for tutors

Dean's List *West Chester, PA*

COLLEGE OF ARTS AND SCIENCES, WEST CHESTER UNIVERSITY OF PENNSYLVANIA *May 2013*
- Completed 12 or more graded hours in an academic semester and achieve a semester GPA of 3.670 or better

Programming courses

Data Scientist with R Track *DataCamp*

HTTPS://WWW.DATACAMP.COM/STATEMENT-OF-ACCOMPLISHMENT/TRACK/B95FA8556C521B7AEF3E27A695E162EB588622F1

Statistician with R Track *DataCamp*

HTTPS://WWW.DATACAMP.COM/STATEMENT-OF-ACCOMPLISHMENT/TRACK/F5C18FDED8EFD5CE7DC57F91D14CDE3166F6439B

R Programmer Track *DataCamp*

HTTPS://WWW.DATACAMP.COM/STATEMENT-OF-ACCOMPLISHMENT/TRACK/09B64B5B5242159381D75837ED90198454E9FC58

Data Analyst with R Track *DataCamp*

HTTPS://WWW.DATACAMP.COM/STATEMENT-OF-ACCOMPLISHMENT/TRACK/3041F1BFC05674C2E957C479FDDBB8F55573DB45

R Programming *DataCamp*

HTTPS://WWW.DATACAMP.COM/STATEMENT-OF-ACCOMPLISHMENT/TRACK/327633AAE130FC18FD36A34A476D535CEFCF930D

Importing & Cleaning Data with R Track *DataCamp*

HTTPS://WWW.DATACAMP.COM/STATEMENT-OF-ACCOMPLISHMENT/TRACK/525FABE528901A0BBB048608D5C84E9C553E1805

Machine Learning Fundamentals in R Track *DataCamp*

HTTPS://WWW.DATACAMP.COM/STATEMENT-OF-ACCOMPLISHMENT/TRACK/57ECB920DD927F26CBF2D25CAA0F689F131653B3

Statistical Fundamentals with R Track *DataCamp*

HTTPS://WWW.DATACAMP.COM/STATEMENT-OF-ACCOMPLISHMENT/TRACK/4A64ACC738CC6DCF6E19E5E7F9955C7A6DE410A0

Statistical Fundamentals with R Track (Old Track) *DataCamp*

HTTPS://WWW.DATACAMP.COM/STATEMENT-OF-ACCOMPLISHMENT/TRACK/67629E7267C73B14E0DBD964A4B9D35F0957BDF0

Python Programming Track *DataCamp*

HTTPS://WWW.DATACAMP.COM/STATEMENT-OF-ACCOMPLISHMENT/TRACK/D7E95156F4DD81D658D48DFBBC1B8792D7164D7D

SQL Fundamentals Track *DataCamp*

HTTPS://WWW.DATACAMP.COM/STATEMENT-OF-ACCOMPLISHMENT/TRACK/C5EE6F9F354942E37AE6D84115227D6B98BA5F78

SAS Programming 1: Essentials *SAS*

HTTPS://GITHUB.COM/JMBARBONE/BARBONE-CV/BLOB/MASTER/DOCS/EPG194_CERTIFICATE OF COMPLETION.PDF