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Running Genetic Algorithm...

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=== GENETIC ALGORITHM OPTIMIZATION ===

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[Initialization]

- Population size: 60

- Generations: 40

- Crossover rate: 80%

- Mutation rate: 20%

- Search space: 334 features

- Target: Minimize MSE using XGBoost

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=== OPTIMIZATION RESULTS ===

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▶ Best MSE achieved: 0.000670

▶ Time elapsed: 4640.20 seconds

▶ Features selected: 192/334 (42.5% reduction)

▶ Selected features:

1. AMT\_ANNUITY

2. AMT\_GOODS\_PRICE

3. CODE\_GENDER

4. DAYS\_EMPLOYED

5. DEF\_60\_CNT\_SOCIAL\_CIRCLE

6. EXT\_SOURCE\_1

7. EXT\_SOURCE\_2

8. EXT\_SOURCE\_3

9. FLAG\_DOCUMENT\_3

10. FLOORSMAX\_MEDI

11. FLOORSMAX\_MODE

12. LIVINGAPARTMENTS\_MEDI

13. LIVINGAREA\_AVG

14. NAME\_EDUCATION\_TYPE

15. NAME\_INCOME\_TYPE

16. OCCUPATION\_TYPE

17. ORGANIZATION\_TYPE

18. OWN\_CAR\_AGE

19. REGION\_POPULATION\_RELATIVE

20. TARGET

21. Count\_POS\_CASH\_balance\_train\_csv\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_

22. Count\_POS\_CASH\_balance\_train\_csv\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

23. Count\_bureau\_train\_csv\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

24. Count\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

25. CountDistinct\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_

26. Max\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_SK\_DPD\_\_\_0\_5

27. Max\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

28. Max\_bureau\_train\_csv\_CREDIT\_DAY\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225

29. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

30. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

31. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

32. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_0\_5

33. Max\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_\_0\_0225

34. Max\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_

35. Max\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_in\_\_0\_5\_\_1\_5\_

36. Max\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_

37. Mean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_\_1897266

38. Mean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5

39. Mean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_NAME\_CONTRACT\_STATUS\_\_\_Active

40. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_\_\_\_124731\_405

41. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

42. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

43. Mean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1

44. Mean\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

45. Mean\_credit\_card\_balance\_train\_csv\_AMT\_CREDIT\_LIMIT\_ACTUAL\_\_where\_AMT\_BALANCE\_\_\_\_0\_0225

46. Mean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_\_1\_5

47. Median\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

48. Median\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5

49. Median\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5

50. Median\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

51. Median\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225

52. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_

53. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

54. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5

55. Median\_credit\_card\_balance\_train\_csv\_AMT\_RECIVABLE\_\_where\_SK\_DPD\_DEF\_\_\_\_0\_5

56. Median\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_in\_\_0\_5\_\_1\_5\_

57. Min\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_

58. Min\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

59. Min\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_0\_0225

60. Min\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

61. Min\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

62. Min\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_TYPE\_\_\_Consumer\_credit

63. Min\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

64. Min\_previous\_application\_train\_csv\_HOUR\_APPR\_PROCESS\_START\_

65. Min\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_

66. Mode\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_

67. Mode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1

68. Mode\_bureau\_train\_csv\_CREDIT\_TYPE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

69. Mode\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_

70. Mode\_previous\_application\_train\_csv\_NAME\_SELLER\_INDUSTRY\_

71. StdDev\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5

72. StdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_

73. StdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_MONTHS\_BALANCE\_\_\_\_\_27\_5

74. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_

75. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_CNT\_INSTALMENT\_\_\_24\_5

76. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_7\_5\_\_13\_5\_

77. StdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5

78. StdDev\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

79. StdDev\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

80. StdDev\_credit\_card\_balance\_train\_csv\_AMT\_DRAWINGS\_ATM\_CURRENT\_

81. StdDev\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28

82. StdDev\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_AMT\_PAYMENT\_in\_\_8088\_8175\_\_15929\_28\_

83. StdDev\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_in\_\_8088\_8175\_\_15929\_28\_

84. StdDev\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_NUM\_INSTALMENT\_NUMBER\_\_\_8\_5

85. Sum\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_SK\_DPD\_\_\_\_0\_5

86. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

87. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

88. Sum\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

89. Sum\_bureau\_train\_csv\_DAYS\_ENDDATE\_FACT\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5

90. Sum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_CREDIT\_TYPE\_\_\_\_Consumer\_credit

91. Sum\_credit\_card\_balance\_train\_csv\_CNT\_DRAWINGS\_ATM\_CURRENT\_\_where\_AMT\_INST\_MIN\_REGULARITY\_\_\_0\_0225

92. Sum\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_INSTALMENT\_in\_\_\_1654\_5\_\_\_821\_5\_

93. Sum\_installments\_payments\_train\_csv\_SK\_ID\_PREV\_\_where\_AMT\_INSTALMENT\_\_\_16549\_6725

94. LabelPAMT\_ANNUITY

95. LabelPAMT\_CREDIT

96. LabelPAMT\_GOODS\_PRICE

97. LabelPCount\_POS\_CASH\_balance\_train\_csv\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

98. LabelPCount\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

99. LabelPCountDistinct\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5

100. LabelPCountDistinct\_credit\_card\_balance\_train\_csv\_NAME\_CONTRACT\_STATUS\_\_where\_AMT\_RECIVABLE\_\_\_0\_0225

101. LabelPCountDistinct\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_

102. LabelPDEF\_30\_CNT\_SOCIAL\_CIRCLE

103. LabelPEXT\_SOURCE\_1

104. LabelPEXT\_SOURCE\_2

105. LabelPEXT\_SOURCE\_3

106. LabelPFLAG\_DOCUMENT\_3

107. LabelPFLAG\_EMP\_PHONE

108. LabelPFLAG\_OWN\_CAR

109. LabelPFLOORSMAX\_MEDI

110. LabelPFLOORSMAX\_MODE

111. LabelPLIVINGAPARTMENTS\_MEDI

112. LabelPMax\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_\_\_\_7\_5

113. LabelPMax\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

114. LabelPMax\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

115. LabelPMax\_bureau\_train\_csv\_CREDIT\_DAY\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225

116. LabelPMax\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

117. LabelPMax\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

118. LabelPMax\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_\_0\_0225

119. LabelPMax\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_8088\_8175

120. LabelPMax\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_in\_\_0\_5\_\_1\_5\_

121. LabelPMax\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_SK\_ID\_PREV\_\_\_\_1897795\_5

122. LabelPMax\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5

123. LabelPMax\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5

124. LabelPMax\_previous\_application\_train\_csv\_CNT\_PAYMENT\_

125. LabelPMean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_CNT\_INSTALMENT\_\_\_24\_5

126. LabelPMean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_\_1897266

127. LabelPMean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_1897266

128. LabelPMean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

129. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_\_0\_5

130. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

131. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

132. LabelPMean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1

133. LabelPMean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

134. LabelPMean\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

135. LabelPMean\_credit\_card\_balance\_train\_csv\_AMT\_CREDIT\_LIMIT\_ACTUAL\_\_where\_AMT\_BALANCE\_\_\_\_0\_0225

136. LabelPMean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025

137. LabelPMean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_\_1\_5

138. LabelPMean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

139. LabelPMean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5

140. LabelPMean\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

141. LabelPMedian\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

142. LabelPMedian\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5

143. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

144. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

145. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225

146. LabelPMedian\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5

147. LabelPMedian\_credit\_card\_balance\_train\_csv\_AMT\_RECIVABLE\_\_where\_SK\_DPD\_DEF\_\_\_\_0\_5

148. LabelPMedian\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_1663\_5

149. LabelPMedian\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_

150. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

151. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

152. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_0\_0225

153. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

154. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

155. LabelPMin\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025

156. LabelPMin\_previous\_application\_train\_csv\_HOUR\_APPR\_PROCESS\_START\_

157. LabelPMode\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_

158. LabelPMode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1

159. LabelPMode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

160. LabelPMode\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_

161. LabelPMode\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_

162. LabelPMode\_previous\_application\_train\_csv\_NAME\_SELLER\_INDUSTRY\_

163. LabelPNAME\_CONTRACT\_TYPE

164. LabelPOCCUPATION\_TYPE

165. LabelPORGANIZATION\_TYPE

166. LabelPOWN\_CAR\_AGE

167. LabelPREGION\_POPULATION\_RELATIVE

168. LabelPREGION\_RATING\_CLIENT

169. LabelPREGION\_RATING\_CLIENT\_W\_CITY

170. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5

171. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_

172. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_

173. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_7\_5\_\_13\_5\_

174. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

175. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5

176. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

177. LabelPStdDev\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

178. LabelPStdDev\_credit\_card\_balance\_train\_csv\_AMT\_DRAWINGS\_ATM\_CURRENT\_

179. LabelPStdDev\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_in\_\_8783\_3025\_\_16549\_6725\_

180. LabelPStdDev\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_VERSION\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_1\_5

181. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_CREDIT\_TYPE\_\_\_\_Consumer\_credit

182. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

183. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

184. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

185. LabelPSum\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

186. LabelPSum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_CREDIT\_TYPE\_\_\_\_Consumer\_credit

187. LabelPSum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_\_\_\_\_983\_5

188. LabelPSum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

189. LabelPSum\_credit\_card\_balance\_train\_csv\_CNT\_DRAWINGS\_ATM\_CURRENT\_\_where\_AMT\_INST\_MIN\_REGULARITY\_\_\_0\_0225

190. LabelPSum\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28

191. LabelPSum\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

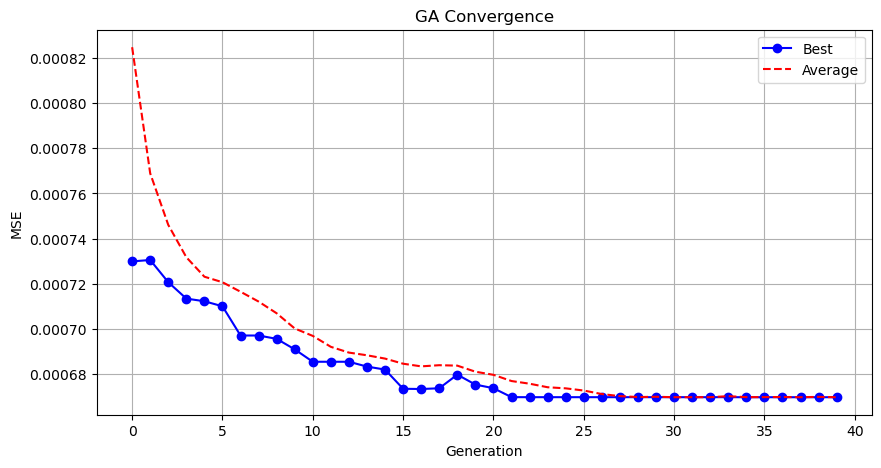
192. LabelPYEARS\_BEGINEXPLUATATION\_AVG

▶ Convergence progress:

- Initial MSE: 0.0007

- Final MSE: 0.0007

- Improvement: 8.2%



Genetic Algorithm completed successfully with MSE: 0.0007

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Running Particle Swarm Optimization...

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=== PARTICLE SWARM OPTIMIZATION ===

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[Initialization]

- Swarm size: 60 particles

- Iterations: 40

- Cognitive weight: 0.5

- Social weight: 0.5

- Inertia weight: 0.5

- Search space: 334 features

- Target: Minimize MSE using XGBoost

[Optimization Progress]

No constraints given.

Iteration 1: Best MSE = 0.002585

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=== OPTIMIZATION RESULTS ===

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▶ Best MSE achieved: 0.000720

▶ Time elapsed: 181.24 seconds

▶ Features selected: 177/334 (47.0% reduction)

▶ Selected features (with weights):

1. AMT\_ANNUITY (weight: 0.948)

2. AMT\_CREDIT (weight: 0.711)

3. AMT\_GOODS\_PRICE (weight: 0.531)

4. CODE\_GENDER (weight: 0.955)

5. DAYS\_EMPLOYED (weight: 0.699)

6. DAYS\_ID\_PUBLISH (weight: 0.778)

7. DEF\_30\_CNT\_SOCIAL\_CIRCLE (weight: 0.784)

8. DEF\_60\_CNT\_SOCIAL\_CIRCLE (weight: 0.820)

9. EXT\_SOURCE\_1 (weight: 0.964)

10. EXT\_SOURCE\_2 (weight: 0.571)

11. EXT\_SOURCE\_3 (weight: 0.819)

12. FLAG\_DOCUMENT\_3 (weight: 0.663)

13. FLAG\_OWN\_CAR (weight: 1.000)

14. NAME\_CONTRACT\_TYPE (weight: 0.858)

15. NAME\_EDUCATION\_TYPE (weight: 0.833)

16. NAME\_FAMILY\_STATUS (weight: 0.891)

17. NAME\_INCOME\_TYPE (weight: 1.000)

18. OCCUPATION\_TYPE (weight: 0.617)

19. OWN\_CAR\_AGE (weight: 1.000)

20. REGION\_POPULATION\_RELATIVE (weight: 0.501)

21. REGION\_RATING\_CLIENT (weight: 0.702)

22. REGION\_RATING\_CLIENT\_W\_CITY (weight: 0.642)

23. REG\_CITY\_NOT\_LIVE\_CITY (weight: 0.528)

24. REG\_CITY\_NOT\_WORK\_CITY (weight: 1.000)

25. SK\_ID\_CURR (weight: 0.961)

26. YEARS\_BEGINEXPLUATATION\_AVG (weight: 0.824)

27. Count\_POS\_CASH\_balance\_train\_csv\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_ (weight: 1.000)

28. Count\_bureau\_train\_csv\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.914)

29. Count\_bureau\_train\_csv\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 0.640)

30. Count\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 1.000)

31. CountDistinct\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_ (weight: 1.000)

32. CountDistinct\_credit\_card\_balance\_train\_csv\_NAME\_CONTRACT\_STATUS\_\_where\_AMT\_RECIVABLE\_\_\_0\_0225 (weight: 0.805)

33. Max\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_\_\_\_7\_5 (weight: 1.000)

34. Max\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_SK\_DPD\_\_\_0\_5 (weight: 0.673)

35. Max\_bureau\_train\_csv\_CREDIT\_DAY\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225 (weight: 0.857)

36. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.796)

37. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_0\_5 (weight: 0.739)

38. Max\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_\_0\_0225 (weight: 0.858)

39. Max\_credit\_card\_balance\_train\_csv\_CNT\_DRAWINGS\_CURRENT\_ (weight: 1.000)

40. Max\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_8088\_8175 (weight: 0.892)

41. Max\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_in\_\_8783\_3025\_\_16549\_6725\_ (weight: 0.560)

42. Max\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_ (weight: 0.905)

43. Max\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5 (weight: 0.663)

44. Max\_previous\_application\_train\_csv\_CNT\_PAYMENT\_ (weight: 0.824)

45. Mean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_\_1897266 (weight: 0.821)

46. Mean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_1897266 (weight: 0.898)

47. Mean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5 (weight: 0.923)

48. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405 (weight: 0.898)

49. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 0.878)

50. Mean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5 (weight: 1.000)

51. Mean\_credit\_card\_balance\_train\_csv\_AMT\_CREDIT\_LIMIT\_ACTUAL\_\_where\_AMT\_BALANCE\_\_\_\_0\_0225 (weight: 0.581)

52. Mean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025 (weight: 0.825)

53. Mean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_\_1\_5 (weight: 0.535)

54. Mean\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45 (weight: 0.818)

55. Mean\_previous\_application\_train\_csv\_DAYS\_FIRST\_DRAWING\_ (weight: 1.000)

56. Median\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5 (weight: 0.793)

57. Median\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5 (weight: 0.973)

58. Median\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5 (weight: 0.814)

59. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_ (weight: 0.794)

60. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 1.000)

61. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5 (weight: 0.673)

62. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.622)

63. Median\_credit\_card\_balance\_train\_csv\_AMT\_RECIVABLE\_\_where\_SK\_DPD\_DEF\_\_\_\_0\_5 (weight: 0.876)

64. Median\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_1663\_5 (weight: 0.687)

65. Median\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_ (weight: 0.982)

66. Median\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_ (weight: 0.685)

67. Min\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.761)

68. Min\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_0\_0225 (weight: 1.000)

69. Min\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 1.000)

70. Min\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_TYPE\_\_\_Consumer\_credit (weight: 0.739)

71. Min\_credit\_card\_balance\_train\_csv\_AMT\_DRAWINGS\_OTHER\_CURRENT\_ (weight: 0.682)

72. Min\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025 (weight: 1.000)

73. Min\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_ (weight: 0.510)

74. Mode\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_ (weight: 0.889)

75. StdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_MONTHS\_BALANCE\_\_\_\_\_27\_5 (weight: 0.804)

76. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_ (weight: 0.717)

77. StdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405 (weight: 0.639)

78. StdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5 (weight: 1.000)

79. StdDev\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28 (weight: 0.650)

80. StdDev\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_in\_\_8088\_8175\_\_15929\_28\_ (weight: 0.948)

81. StdDev\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_ (weight: 0.714)

82. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.785)

83. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 0.571)

84. Sum\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405 (weight: 1.000)

85. Sum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_CREDIT\_TYPE\_\_\_\_Consumer\_credit (weight: 0.866)

86. Sum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_\_\_\_\_983\_5 (weight: 0.664)

87. Sum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.884)

88. Sum\_credit\_card\_balance\_train\_csv\_CNT\_DRAWINGS\_ATM\_CURRENT\_\_where\_AMT\_INST\_MIN\_REGULARITY\_\_\_0\_0225 (weight: 0.563)

89. Sum\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28 (weight: 0.758)

90. Sum\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_INSTALMENT\_in\_\_\_1654\_5\_\_\_821\_5\_ (weight: 0.750)

91. Sum\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_8088\_8175 (weight: 0.721)

92. LabelPAMT\_GOODS\_PRICE (weight: 0.998)

93. LabelPCODE\_GENDER (weight: 0.790)

94. LabelPCount\_POS\_CASH\_balance\_train\_csv\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_ (weight: 0.808)

95. LabelPCount\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5 (weight: 0.585)

96. LabelPCount\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.601)

97. LabelPCountDistinct\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5 (weight: 0.884)

98. LabelPDAYS\_EMPLOYED (weight: 0.656)

99. LabelPDEF\_60\_CNT\_SOCIAL\_CIRCLE (weight: 0.652)

100. LabelPEXT\_SOURCE\_1 (weight: 1.000)

101. LabelPEXT\_SOURCE\_2 (weight: 0.866)

102. LabelPEXT\_SOURCE\_3 (weight: 0.680)

103. LabelPFLAG\_EMP\_PHONE (weight: 0.888)

104. LabelPMax\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_\_\_\_7\_5 (weight: 0.673)

105. LabelPMax\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_SK\_DPD\_\_\_0\_5 (weight: 0.522)

106. LabelPMax\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.634)

107. LabelPMax\_bureau\_train\_csv\_CREDIT\_DAY\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225 (weight: 1.000)

108. LabelPMax\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.865)

109. LabelPMax\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_0\_5 (weight: 0.977)

110. LabelPMax\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_8088\_8175 (weight: 1.000)

111. LabelPMax\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_in\_\_0\_5\_\_1\_5\_ (weight: 1.000)

112. LabelPMax\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_SK\_ID\_PREV\_\_\_\_1897795\_5 (weight: 0.693)

113. LabelPMax\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5 (weight: 0.687)

114. LabelPMean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_\_1897266 (weight: 0.602)

115. LabelPMean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5 (weight: 0.752)

116. LabelPMean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_NAME\_CONTRACT\_STATUS\_\_\_Active (weight: 0.613)

117. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_\_0\_5 (weight: 0.847)

118. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.712)

119. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_\_\_\_124731\_405 (weight: 0.884)

120. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 0.603)

121. LabelPMean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1 (weight: 0.641)

122. LabelPMean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5 (weight: 0.505)

123. LabelPMean\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.680)

124. LabelPMean\_credit\_card\_balance\_train\_csv\_AMT\_CREDIT\_LIMIT\_ACTUAL\_\_where\_AMT\_BALANCE\_\_\_\_0\_0225 (weight: 0.567)

125. LabelPMean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025 (weight: 0.697)

126. LabelPMean\_previous\_application\_train\_csv\_DAYS\_FIRST\_DRAWING\_ (weight: 1.000)

127. LabelPMedian\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5 (weight: 1.000)

128. LabelPMedian\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5 (weight: 0.624)

129. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5 (weight: 0.625)

130. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5 (weight: 1.000)

131. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225 (weight: 1.000)

132. LabelPMedian\_bureau\_train\_csv\_DAYS\_CREDIT\_ (weight: 0.810)

133. LabelPMedian\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.927)

134. LabelPMedian\_credit\_card\_balance\_train\_csv\_AMT\_RECIVABLE\_\_where\_SK\_DPD\_DEF\_\_\_\_0\_5 (weight: 0.708)

135. LabelPMedian\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_ (weight: 0.669)

136. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_0\_0225 (weight: 0.632)

137. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.640)

138. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 0.834)

139. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_TYPE\_\_\_Consumer\_credit (weight: 0.508)

140. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.925)

141. LabelPMin\_credit\_card\_balance\_train\_csv\_AMT\_DRAWINGS\_OTHER\_CURRENT\_ (weight: 1.000)

142. LabelPMin\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025 (weight: 0.773)

143. LabelPMin\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5 (weight: 0.918)

144. LabelPMin\_previous\_application\_train\_csv\_HOUR\_APPR\_PROCESS\_START\_ (weight: 0.797)

145. LabelPMode\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_ (weight: 1.000)

146. LabelPMode\_bureau\_train\_csv\_CREDIT\_TYPE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.574)

147. LabelPMode\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_ (weight: 0.733)

148. LabelPMode\_previous\_application\_train\_csv\_NAME\_SELLER\_INDUSTRY\_ (weight: 0.825)

149. LabelPNAME\_CONTRACT\_TYPE (weight: 1.000)

150. LabelPNAME\_FAMILY\_STATUS (weight: 0.977)

151. LabelPOCCUPATION\_TYPE (weight: 0.577)

152. LabelPORGANIZATION\_TYPE (weight: 0.792)

153. LabelPOWN\_CAR\_AGE (weight: 0.734)

154. LabelPREGION\_POPULATION\_RELATIVE (weight: 0.866)

155. LabelPREGION\_RATING\_CLIENT (weight: 0.939)

156. LabelPREG\_CITY\_NOT\_WORK\_CITY (weight: 0.895)

157. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5 (weight: 0.652)

158. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_ (weight: 0.784)

159. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_ (weight: 0.757)

160. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_CNT\_INSTALMENT\_\_\_24\_5 (weight: 0.588)

161. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405 (weight: 0.925)

162. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5 (weight: 0.753)

163. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405 (weight: 0.505)

164. LabelPStdDev\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.961)

165. LabelPStdDev\_credit\_card\_balance\_train\_csv\_AMT\_DRAWINGS\_ATM\_CURRENT\_ (weight: 0.843)

166. LabelPStdDev\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_AMT\_PAYMENT\_in\_\_8088\_8175\_\_15929\_28\_ (weight: 0.603)

167. LabelPStdDev\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_NUM\_INSTALMENT\_NUMBER\_\_\_8\_5 (weight: 1.000)

168. LabelPSum\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_\_\_24\_5 (weight: 0.965)

169. LabelPSum\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_SK\_DPD\_\_\_\_0\_5 (weight: 1.000)

170. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.734)

171. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 0.631)

172. LabelPSum\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405 (weight: 0.678)

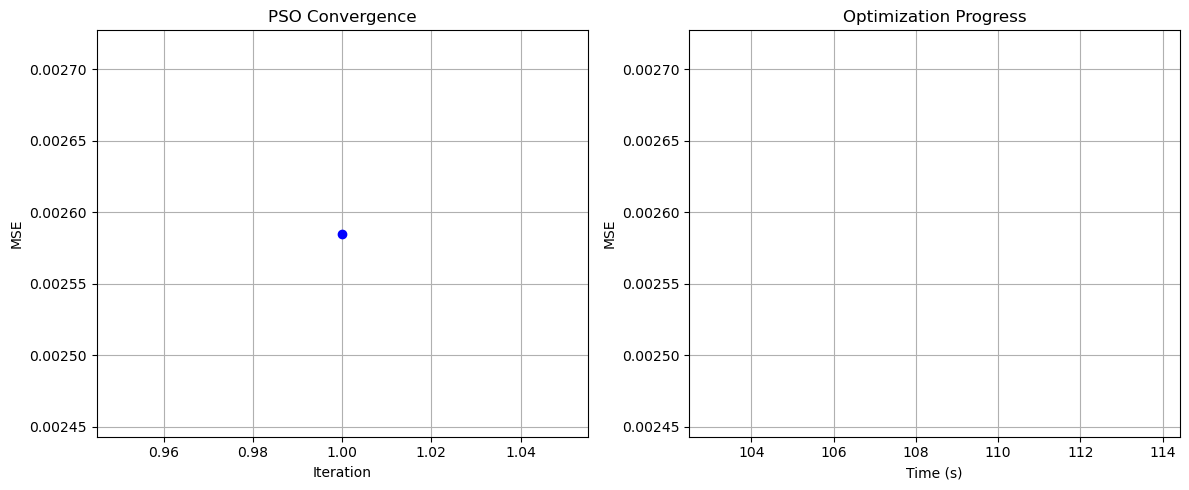
173. LabelPSum\_bureau\_train\_csv\_DAYS\_ENDDATE\_FACT\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5 (weight: 0.650)

174. LabelPSum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.708)

175. LabelPSum\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_8088\_8175 (weight: 0.736)

176. LabelPSum\_installments\_payments\_train\_csv\_SK\_ID\_PREV\_\_where\_AMT\_INSTALMENT\_\_\_16549\_6725 (weight: 0.980)

177. LabelPYEARS\_BEGINEXPLUATATION\_AVG (weight: 0.800)



Particle Swarm Optimization completed successfully with MSE: 0.0007

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Running Whale Optimization...

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=== WHALE OPTIMIZATION ALGORITHM ===

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[Initialization]

- Population: 60 whales

- Max iterations: 40

- Spiral coefficient (b): 1.0

- Search space: 334 features

- Target: Minimize MSE using XGBoost

[Optimization Progress]

Iter 40/40 | Best MSE: 0.000662

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=== OPTIMIZATION RESULTS ===

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▶ Best MSE achieved: 0.000662

▶ Time elapsed: 7127.14 seconds

▶ Features selected: 318/334 (4.8% reduction)

▶ Selected features:

1. AMT\_ANNUITY

2. AMT\_CREDIT

3. AMT\_GOODS\_PRICE

4. CODE\_GENDER

5. DAYS\_BIRTH

6. DAYS\_EMPLOYED

7. DAYS\_ID\_PUBLISH

8. DEF\_60\_CNT\_SOCIAL\_CIRCLE

9. EXT\_SOURCE\_1

10. EXT\_SOURCE\_2

11. EXT\_SOURCE\_3

12. FLAG\_DOCUMENT\_3

13. FLAG\_EMP\_PHONE

14. FLAG\_OWN\_CAR

15. FLOORSMAX\_MEDI

16. FLOORSMAX\_MODE

17. FLOORSMIN\_MEDI

18. LIVINGAPARTMENTS\_MEDI

19. LIVINGAREA\_AVG

20. NAME\_CONTRACT\_TYPE

21. NAME\_EDUCATION\_TYPE

22. NAME\_FAMILY\_STATUS

23. NAME\_INCOME\_TYPE

24. OCCUPATION\_TYPE

25. ORGANIZATION\_TYPE

26. OWN\_CAR\_AGE

27. REGION\_POPULATION\_RELATIVE

28. REGION\_RATING\_CLIENT

29. REGION\_RATING\_CLIENT\_W\_CITY

30. REG\_CITY\_NOT\_LIVE\_CITY

31. REG\_CITY\_NOT\_WORK\_CITY

32. SK\_ID\_CURR

33. TARGET

34. YEARS\_BEGINEXPLUATATION\_AVG

35. Count\_POS\_CASH\_balance\_train\_csv\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_

36. Count\_POS\_CASH\_balance\_train\_csv\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

37. Count\_bureau\_train\_csv\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

38. Count\_bureau\_train\_csv\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

39. Count\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

40. Count\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

41. CountDistinct\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_

42. CountDistinct\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5

43. CountDistinct\_credit\_card\_balance\_train\_csv\_NAME\_CONTRACT\_STATUS\_\_where\_AMT\_RECIVABLE\_\_\_0\_0225

44. CountDistinct\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_

45. CountDistinct\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_

46. Max\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_\_\_\_7\_5

47. Max\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_SK\_DPD\_\_\_0\_5

48. Max\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

49. Max\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

50. Max\_bureau\_train\_csv\_CREDIT\_DAY\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225

51. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

52. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

53. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

54. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_0\_5

55. Max\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_\_0\_0225

56. Max\_credit\_card\_balance\_train\_csv\_CNT\_DRAWINGS\_CURRENT\_

57. Max\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_

58. Max\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_8088\_8175

59. Max\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_in\_\_8783\_3025\_\_16549\_6725\_

60. Max\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_in\_\_0\_5\_\_1\_5\_

61. Max\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_SK\_ID\_PREV\_\_\_\_1897795\_5

62. Max\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_

63. Max\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5

64. Max\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5

65. Max\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_

66. Max\_previous\_application\_train\_csv\_CNT\_PAYMENT\_

67. Mean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_CNT\_INSTALMENT\_\_\_24\_5

68. Mean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_\_1897266

69. Mean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_1897266

70. Mean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

71. Mean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5

72. Mean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_NAME\_CONTRACT\_STATUS\_\_\_Active

73. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_\_0\_0225

74. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_\_0\_5

75. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

76. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_\_\_\_124731\_405

77. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

78. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_\_0\_0675

79. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

80. Mean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1

81. Mean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

82. Mean\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

83. Mean\_credit\_card\_balance\_train\_csv\_AMT\_CREDIT\_LIMIT\_ACTUAL\_\_where\_AMT\_BALANCE\_\_\_\_0\_0225

84. Mean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025

85. Mean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_\_1\_5

86. Mean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

87. Mean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5

88. Mean\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

89. Mean\_previous\_application\_train\_csv\_DAYS\_FIRST\_DRAWING\_

90. Median\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

91. Median\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

92. Median\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5

93. Median\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5

94. Median\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

95. Median\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

96. Median\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225

97. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_

98. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

99. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5

100. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

101. Median\_credit\_card\_balance\_train\_csv\_AMT\_RECIVABLE\_\_where\_SK\_DPD\_DEF\_\_\_\_0\_5

102. Median\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_1663\_5

103. Median\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

104. Median\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_

105. Median\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_

106. Min\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_

107. Min\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

108. Min\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

109. Min\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_0\_0225

110. Min\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

111. Min\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

112. Min\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_TYPE\_\_\_Consumer\_credit

113. Min\_credit\_card\_balance\_train\_csv\_AMT\_DRAWINGS\_OTHER\_CURRENT\_

114. Min\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025

115. Min\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5

116. Min\_previous\_application\_train\_csv\_HOUR\_APPR\_PROCESS\_START\_

117. Min\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_

118. Mode\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_

119. Mode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1

120. Mode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

121. Mode\_bureau\_train\_csv\_CREDIT\_TYPE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

122. Mode\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_

123. Mode\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_

124. Mode\_previous\_application\_train\_csv\_NAME\_SELLER\_INDUSTRY\_

125. StdDev\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5

126. StdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_MONTHS\_BALANCE\_\_\_\_\_27\_5

127. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_CNT\_INSTALMENT\_\_\_\_12\_5

128. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_

129. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_CNT\_INSTALMENT\_\_\_24\_5

130. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_

131. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_7\_5\_\_13\_5\_

132. StdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

133. StdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5

134. StdDev\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

135. StdDev\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

136. StdDev\_credit\_card\_balance\_train\_csv\_AMT\_DRAWINGS\_ATM\_CURRENT\_

137. StdDev\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28

138. StdDev\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_in\_\_8783\_3025\_\_16549\_6725\_

139. StdDev\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_AMT\_PAYMENT\_in\_\_8088\_8175\_\_15929\_28\_

140. StdDev\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_in\_\_8088\_8175\_\_15929\_28\_

141. StdDev\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_NUM\_INSTALMENT\_NUMBER\_\_\_8\_5

142. StdDev\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_VERSION\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_1\_5

143. StdDev\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_

144. Sum\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_\_\_24\_5

145. Sum\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_SK\_DPD\_\_\_\_0\_5

146. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

147. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

148. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_CREDIT\_TYPE\_\_\_\_Consumer\_credit

149. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

150. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

151. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

152. Sum\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

153. Sum\_bureau\_train\_csv\_DAYS\_ENDDATE\_FACT\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5

154. Sum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_CREDIT\_TYPE\_\_\_\_Consumer\_credit

155. Sum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_\_\_\_\_983\_5

156. Sum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

157. Sum\_credit\_card\_balance\_train\_csv\_CNT\_DRAWINGS\_ATM\_CURRENT\_\_where\_AMT\_INST\_MIN\_REGULARITY\_\_\_0\_0225

158. Sum\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28

159. Sum\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_INSTALMENT\_in\_\_\_1654\_5\_\_\_821\_5\_

160. Sum\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

161. Sum\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_8088\_8175

162. Sum\_installments\_payments\_train\_csv\_SK\_ID\_PREV\_\_where\_AMT\_INSTALMENT\_\_\_16549\_6725

163. LabelPAMT\_ANNUITY

164. LabelPAMT\_CREDIT

165. LabelPAMT\_GOODS\_PRICE

166. LabelPCODE\_GENDER

167. LabelPCount\_POS\_CASH\_balance\_train\_csv\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_

168. LabelPCount\_POS\_CASH\_balance\_train\_csv\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

169. LabelPCount\_bureau\_train\_csv\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

170. LabelPCount\_bureau\_train\_csv\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

171. LabelPCount\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

172. LabelPCount\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

173. LabelPCountDistinct\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_

174. LabelPCountDistinct\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5

175. LabelPCountDistinct\_credit\_card\_balance\_train\_csv\_NAME\_CONTRACT\_STATUS\_\_where\_AMT\_RECIVABLE\_\_\_0\_0225

176. LabelPCountDistinct\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_

177. LabelPCountDistinct\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_

178. LabelPDAYS\_BIRTH

179. LabelPDAYS\_ID\_PUBLISH

180. LabelPDEF\_30\_CNT\_SOCIAL\_CIRCLE

181. LabelPDEF\_60\_CNT\_SOCIAL\_CIRCLE

182. LabelPEXT\_SOURCE\_1

183. LabelPEXT\_SOURCE\_2

184. LabelPEXT\_SOURCE\_3

185. LabelPFLAG\_DOCUMENT\_3

186. LabelPFLAG\_EMP\_PHONE

187. LabelPFLOORSMAX\_MEDI

188. LabelPFLOORSMAX\_MODE

189. LabelPFLOORSMIN\_MEDI

190. LabelPLIVINGAPARTMENTS\_MEDI

191. LabelPLIVINGAREA\_AVG

192. LabelPMax\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_\_\_\_7\_5

193. LabelPMax\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_SK\_DPD\_\_\_0\_5

194. LabelPMax\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

195. LabelPMax\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

196. LabelPMax\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

197. LabelPMax\_bureau\_train\_csv\_CREDIT\_DAY\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225

198. LabelPMax\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

199. LabelPMax\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

200. LabelPMax\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

201. LabelPMax\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_0\_5

202. LabelPMax\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_\_0\_0225

203. LabelPMax\_credit\_card\_balance\_train\_csv\_CNT\_DRAWINGS\_CURRENT\_

204. LabelPMax\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_

205. LabelPMax\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_8088\_8175

206. LabelPMax\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_in\_\_8783\_3025\_\_16549\_6725\_

207. LabelPMax\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_in\_\_0\_5\_\_1\_5\_

208. LabelPMax\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_SK\_ID\_PREV\_\_\_\_1897795\_5

209. LabelPMax\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_

210. LabelPMax\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5

211. LabelPMax\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5

212. LabelPMax\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_

213. LabelPMax\_previous\_application\_train\_csv\_CNT\_PAYMENT\_

214. LabelPMean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_CNT\_INSTALMENT\_\_\_24\_5

215. LabelPMean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_\_1897266

216. LabelPMean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_1897266

217. LabelPMean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

218. LabelPMean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5

219. LabelPMean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_NAME\_CONTRACT\_STATUS\_\_\_Active

220. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_\_0\_0225

221. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_\_0\_5

222. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

223. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

224. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_\_0\_0675

225. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

226. LabelPMean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1

227. LabelPMean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

228. LabelPMean\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

229. LabelPMean\_credit\_card\_balance\_train\_csv\_AMT\_CREDIT\_LIMIT\_ACTUAL\_\_where\_AMT\_BALANCE\_\_\_\_0\_0225

230. LabelPMean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025

231. LabelPMean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_\_1\_5

232. LabelPMean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

233. LabelPMean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5

234. LabelPMean\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

235. LabelPMean\_previous\_application\_train\_csv\_DAYS\_FIRST\_DRAWING\_

236. LabelPMedian\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

237. LabelPMedian\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

238. LabelPMedian\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5

239. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5

240. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

241. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

242. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225

243. LabelPMedian\_bureau\_train\_csv\_DAYS\_CREDIT\_

244. LabelPMedian\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

245. LabelPMedian\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5

246. LabelPMedian\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

247. LabelPMedian\_credit\_card\_balance\_train\_csv\_AMT\_RECIVABLE\_\_where\_SK\_DPD\_DEF\_\_\_\_0\_5

248. LabelPMedian\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_in\_\_0\_5\_\_1\_5\_

249. LabelPMedian\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_1663\_5

250. LabelPMedian\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

251. LabelPMedian\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_

252. LabelPMedian\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_

253. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_

254. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

255. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

256. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_0\_0225

257. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

258. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

259. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_TYPE\_\_\_Consumer\_credit

260. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

261. LabelPMin\_credit\_card\_balance\_train\_csv\_AMT\_DRAWINGS\_OTHER\_CURRENT\_

262. LabelPMin\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025

263. LabelPMin\_previous\_application\_train\_csv\_HOUR\_APPR\_PROCESS\_START\_

264. LabelPMin\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_

265. LabelPMode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

266. LabelPMode\_bureau\_train\_csv\_CREDIT\_TYPE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

267. LabelPMode\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_

268. LabelPMode\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_

269. LabelPMode\_previous\_application\_train\_csv\_NAME\_SELLER\_INDUSTRY\_

270. LabelPNAME\_CONTRACT\_TYPE

271. LabelPNAME\_EDUCATION\_TYPE

272. LabelPNAME\_FAMILY\_STATUS

273. LabelPNAME\_INCOME\_TYPE

274. LabelPOCCUPATION\_TYPE

275. LabelPORGANIZATION\_TYPE

276. LabelPOWN\_CAR\_AGE

277. LabelPREGION\_POPULATION\_RELATIVE

278. LabelPREGION\_RATING\_CLIENT\_W\_CITY

279. LabelPREG\_CITY\_NOT\_LIVE\_CITY

280. LabelPREG\_CITY\_NOT\_WORK\_CITY

281. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5

282. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_

283. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_MONTHS\_BALANCE\_\_\_\_\_27\_5

284. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_CNT\_INSTALMENT\_\_\_\_12\_5

285. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_

286. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_CNT\_INSTALMENT\_\_\_24\_5

287. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_

288. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_7\_5\_\_13\_5\_

289. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

290. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5

291. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

292. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

293. LabelPStdDev\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

294. LabelPStdDev\_credit\_card\_balance\_train\_csv\_AMT\_DRAWINGS\_ATM\_CURRENT\_

295. LabelPStdDev\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28

296. LabelPStdDev\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_in\_\_8783\_3025\_\_16549\_6725\_

297. LabelPStdDev\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_AMT\_PAYMENT\_in\_\_8088\_8175\_\_15929\_28\_

298. LabelPStdDev\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_in\_\_8088\_8175\_\_15929\_28\_

299. LabelPStdDev\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_VERSION\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_1\_5

300. LabelPStdDev\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_

301. LabelPSum\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_\_\_24\_5

302. LabelPSum\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_SK\_DPD\_\_\_\_0\_5

303. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

304. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

305. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_CREDIT\_TYPE\_\_\_\_Consumer\_credit

306. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

307. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

308. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

309. LabelPSum\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

310. LabelPSum\_bureau\_train\_csv\_DAYS\_ENDDATE\_FACT\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5

311. LabelPSum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_\_\_\_\_983\_5

312. LabelPSum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

313. LabelPSum\_credit\_card\_balance\_train\_csv\_CNT\_DRAWINGS\_ATM\_CURRENT\_\_where\_AMT\_INST\_MIN\_REGULARITY\_\_\_0\_0225

314. LabelPSum\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28

315. LabelPSum\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_INSTALMENT\_in\_\_\_1654\_5\_\_\_821\_5\_

316. LabelPSum\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

317. LabelPSum\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_8088\_8175

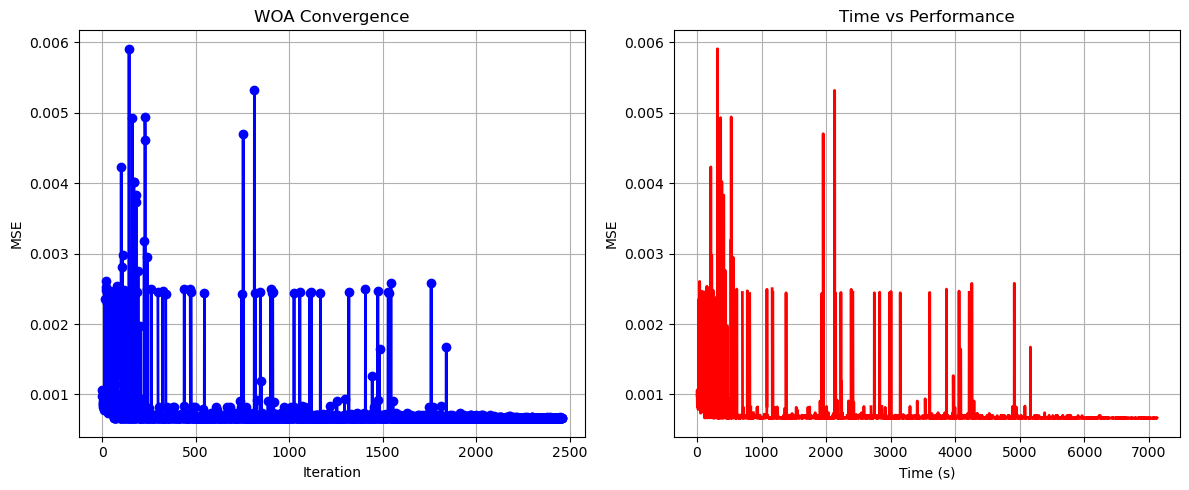
318. LabelPYEARS\_BEGINEXPLUATATION\_AVG

▶ Convergence progress:

- Initial MSE: 0.0010

- Final MSE: 0.0007

- Improvement: 32.2%



Whale Optimization completed successfully with MSE: 0.0007

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Running Squid Game Optimizer...

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=== SQUID GAME OPTIMIZER (SGO) ===

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[Initialization]

- Players: 60 (30 offensive, 30 defensive)

- Max games: 40

- Search space: 334 features

- Target: Minimize MSE using XGBoost

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=== OPTIMIZATION RESULTS ===

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▶ Best MSE achieved: 0.000708

▶ Time elapsed: 4108.02 seconds

▶ Features selected: 157/334 (53.0% reduction)

▶ Selected features:

1. AMT\_CREDIT

2. AMT\_GOODS\_PRICE

3. CODE\_GENDER

4. DAYS\_BIRTH

5. DEF\_60\_CNT\_SOCIAL\_CIRCLE

6. EXT\_SOURCE\_1

7. EXT\_SOURCE\_2

8. EXT\_SOURCE\_3

9. FLAG\_DOCUMENT\_3

10. FLAG\_EMP\_PHONE

11. FLAG\_OWN\_CAR

12. NAME\_CONTRACT\_TYPE

13. NAME\_FAMILY\_STATUS

14. OWN\_CAR\_AGE

15. REGION\_RATING\_CLIENT

16. REG\_CITY\_NOT\_LIVE\_CITY

17. Count\_bureau\_train\_csv\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

18. Count\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

19. CountDistinct\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5

20. CountDistinct\_credit\_card\_balance\_train\_csv\_NAME\_CONTRACT\_STATUS\_\_where\_AMT\_RECIVABLE\_\_\_0\_0225

21. CountDistinct\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_

22. CountDistinct\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_

23. Max\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_SK\_DPD\_\_\_0\_5

24. Max\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

25. Max\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

26. Max\_bureau\_train\_csv\_CREDIT\_DAY\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225

27. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

28. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_0\_5

29. Max\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_\_0\_0225

30. Max\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_SK\_ID\_PREV\_\_\_\_1897795\_5

31. Max\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_

32. Max\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5

33. Max\_previous\_application\_train\_csv\_CNT\_PAYMENT\_

34. Mean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_1897266

35. Mean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_NAME\_CONTRACT\_STATUS\_\_\_Active

36. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_\_0\_0225

37. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

38. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

39. Mean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1

40. Mean\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

41. Mean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_\_1\_5

42. Mean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5

43. Median\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

44. Median\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

45. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

46. Median\_credit\_card\_balance\_train\_csv\_AMT\_RECIVABLE\_\_where\_SK\_DPD\_DEF\_\_\_\_0\_5

47. Median\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_

48. Min\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_

49. Min\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_0\_0225

50. Min\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

51. Min\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_TYPE\_\_\_Consumer\_credit

52. Min\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5

53. Min\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_

54. Mode\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_

55. Mode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

56. Mode\_bureau\_train\_csv\_CREDIT\_TYPE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

57. Mode\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_

58. StdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_

59. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_CNT\_INSTALMENT\_\_\_\_12\_5

60. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_CNT\_INSTALMENT\_\_\_24\_5

61. StdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5

62. StdDev\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_in\_\_8783\_3025\_\_16549\_6725\_

63. StdDev\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_NUM\_INSTALMENT\_NUMBER\_\_\_8\_5

64. StdDev\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_

65. Sum\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_\_\_24\_5

66. Sum\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_SK\_DPD\_\_\_\_0\_5

67. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

68. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

69. Sum\_bureau\_train\_csv\_DAYS\_ENDDATE\_FACT\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5

70. Sum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_CREDIT\_TYPE\_\_\_\_Consumer\_credit

71. Sum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

72. Sum\_credit\_card\_balance\_train\_csv\_CNT\_DRAWINGS\_ATM\_CURRENT\_\_where\_AMT\_INST\_MIN\_REGULARITY\_\_\_0\_0225

73. Sum\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28

74. Sum\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_8088\_8175

75. Sum\_installments\_payments\_train\_csv\_SK\_ID\_PREV\_\_where\_AMT\_INSTALMENT\_\_\_16549\_6725

76. LabelPAMT\_CREDIT

77. LabelPAMT\_GOODS\_PRICE

78. LabelPCODE\_GENDER

79. LabelPCount\_POS\_CASH\_balance\_train\_csv\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_

80. LabelPCount\_POS\_CASH\_balance\_train\_csv\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

81. LabelPCount\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

82. LabelPCount\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

83. LabelPCountDistinct\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_

84. LabelPCountDistinct\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_

85. LabelPDAYS\_BIRTH

86. LabelPDAYS\_EMPLOYED

87. LabelPDAYS\_ID\_PUBLISH

88. LabelPDEF\_30\_CNT\_SOCIAL\_CIRCLE

89. LabelPEXT\_SOURCE\_1

90. LabelPEXT\_SOURCE\_2

91. LabelPEXT\_SOURCE\_3

92. LabelPFLOORSMAX\_MEDI

93. LabelPFLOORSMIN\_MEDI

94. LabelPLIVINGAPARTMENTS\_MEDI

95. LabelPMax\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_\_\_\_7\_5

96. LabelPMax\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

97. LabelPMax\_bureau\_train\_csv\_CREDIT\_DAY\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225

98. LabelPMax\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

99. LabelPMax\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_\_0\_0225

100. LabelPMax\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_in\_\_8783\_3025\_\_16549\_6725\_

101. LabelPMax\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_SK\_ID\_PREV\_\_\_\_1897795\_5

102. LabelPMax\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5

103. LabelPMax\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_

104. LabelPMax\_previous\_application\_train\_csv\_CNT\_PAYMENT\_

105. LabelPMean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_1897266

106. LabelPMean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

107. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

108. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

109. LabelPMean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

110. LabelPMean\_credit\_card\_balance\_train\_csv\_AMT\_CREDIT\_LIMIT\_ACTUAL\_\_where\_AMT\_BALANCE\_\_\_\_0\_0225

111. LabelPMean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025

112. LabelPMean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_\_1\_5

113. LabelPMean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

114. LabelPMean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5

115. LabelPMean\_previous\_application\_train\_csv\_DAYS\_FIRST\_DRAWING\_

116. LabelPMedian\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5

117. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

118. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225

119. LabelPMedian\_bureau\_train\_csv\_DAYS\_CREDIT\_

120. LabelPMedian\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5

121. LabelPMedian\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

122. LabelPMedian\_credit\_card\_balance\_train\_csv\_AMT\_RECIVABLE\_\_where\_SK\_DPD\_DEF\_\_\_\_0\_5

123. LabelPMedian\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

124. LabelPMedian\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_

125. LabelPMedian\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_

126. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_

127. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

128. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_0\_0225

129. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

130. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_TYPE\_\_\_Consumer\_credit

131. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

132. LabelPMin\_credit\_card\_balance\_train\_csv\_AMT\_DRAWINGS\_OTHER\_CURRENT\_

133. LabelPMin\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025

134. LabelPMin\_previous\_application\_train\_csv\_HOUR\_APPR\_PROCESS\_START\_

135. LabelPMin\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_

136. LabelPMode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1

137. LabelPMode\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_

138. LabelPMode\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_

139. LabelPNAME\_EDUCATION\_TYPE

140. LabelPOCCUPATION\_TYPE

141. LabelPREGION\_POPULATION\_RELATIVE

142. LabelPREG\_CITY\_NOT\_LIVE\_CITY

143. LabelPREG\_CITY\_NOT\_WORK\_CITY

144. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5

145. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_

146. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_CNT\_INSTALMENT\_\_\_24\_5

147. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

148. LabelPStdDev\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

149. LabelPStdDev\_credit\_card\_balance\_train\_csv\_AMT\_DRAWINGS\_ATM\_CURRENT\_

150. LabelPStdDev\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_AMT\_PAYMENT\_in\_\_8088\_8175\_\_15929\_28\_

151. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

152. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

153. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

154. LabelPSum\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

155. LabelPSum\_bureau\_train\_csv\_DAYS\_ENDDATE\_FACT\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5

156. LabelPSum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

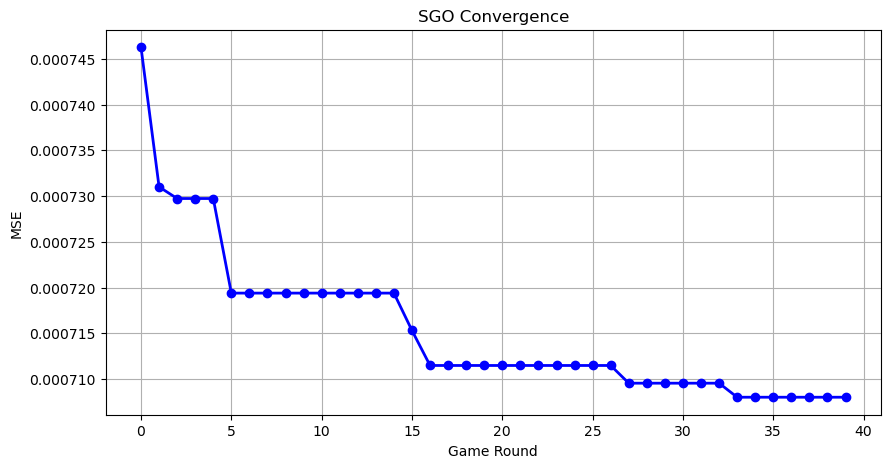
157. LabelPSum\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

▶ Convergence progress:

- Initial MSE: 0.0007

- Final MSE: 0.0007

- Improvement: 5.1%



Squid Game Optimizer completed successfully with MSE: 0.0007

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Running PSH-Hyptrite...

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=== PSH-HYPTRITE OPTIMIZATION ===

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[Initialization]

- Search points: 60

- Max iterations: 40

- Initial radius: 0.5 (adaptive)

- Hypersphere samples: 3 per point

- Search space: 334 features

- Target: Minimize MSE using XGBoost

[Optimization Progress]

Iter 40/40 | Best MSE: 0.000706 | Radius: 0.0125

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=== OPTIMIZATION RESULTS ===

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▶ Best MSE achieved: 0.000706

▶ Time elapsed: 14079.65 seconds

▶ Features selected: 187/334 (44.0% reduction)

▶ Selected features (with weights):

1. AMT\_CREDIT (weight: 0.965)

2. AMT\_GOODS\_PRICE (weight: 0.970)

3. CODE\_GENDER (weight: 0.885)

4. DAYS\_BIRTH (weight: 0.721)

5. DAYS\_EMPLOYED (weight: 0.677)

6. DAYS\_ID\_PUBLISH (weight: 0.507)

7. EXT\_SOURCE\_1 (weight: 0.749)

8. EXT\_SOURCE\_2 (weight: 0.597)

9. EXT\_SOURCE\_3 (weight: 0.609)

10. FLAG\_DOCUMENT\_3 (weight: 0.974)

11. FLAG\_EMP\_PHONE (weight: 0.514)

12. FLOORSMAX\_MEDI (weight: 0.747)

13. FLOORSMAX\_MODE (weight: 0.728)

14. FLOORSMIN\_MEDI (weight: 0.823)

15. LIVINGAREA\_AVG (weight: 0.668)

16. NAME\_CONTRACT\_TYPE (weight: 0.665)

17. NAME\_FAMILY\_STATUS (weight: 0.655)

18. NAME\_INCOME\_TYPE (weight: 0.652)

19. OCCUPATION\_TYPE (weight: 0.928)

20. ORGANIZATION\_TYPE (weight: 0.624)

21. OWN\_CAR\_AGE (weight: 0.523)

22. REGION\_POPULATION\_RELATIVE (weight: 0.744)

23. REGION\_RATING\_CLIENT\_W\_CITY (weight: 0.741)

24. REG\_CITY\_NOT\_WORK\_CITY (weight: 0.867)

25. TARGET (weight: 0.653)

26. Count\_POS\_CASH\_balance\_train\_csv\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_ (weight: 0.941)

27. Count\_POS\_CASH\_balance\_train\_csv\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5 (weight: 0.533)

28. Count\_bureau\_train\_csv\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 0.706)

29. Count\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5 (weight: 0.543)

30. Count\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.578)

31. CountDistinct\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_ (weight: 0.968)

32. CountDistinct\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5 (weight: 0.932)

33. Max\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_\_\_\_7\_5 (weight: 0.798)

34. Max\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5 (weight: 0.709)

35. Max\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.706)

36. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.790)

37. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.784)

38. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_0\_5 (weight: 0.926)

39. Max\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_ (weight: 0.756)

40. Max\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_8088\_8175 (weight: 0.992)

41. Max\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_in\_\_8783\_3025\_\_16549\_6725\_ (weight: 0.618)

42. Max\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_SK\_ID\_PREV\_\_\_\_1897795\_5 (weight: 0.694)

43. Max\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_ (weight: 0.624)

44. Max\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5 (weight: 0.813)

45. Max\_previous\_application\_train\_csv\_CNT\_PAYMENT\_ (weight: 0.773)

46. Mean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_CNT\_INSTALMENT\_\_\_24\_5 (weight: 0.659)

47. Mean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_1897266 (weight: 0.632)

48. Mean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_NAME\_CONTRACT\_STATUS\_\_\_Active (weight: 0.577)

49. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_\_0\_0225 (weight: 0.740)

50. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_\_0\_5 (weight: 0.796)

51. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.520)

52. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405 (weight: 0.851)

53. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_\_0\_0675 (weight: 0.753)

54. Mean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1 (weight: 0.559)

55. Mean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5 (weight: 0.795)

56. Mean\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.887)

57. Mean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025 (weight: 0.523)

58. Mean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_\_1\_5 (weight: 0.831)

59. Mean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5 (weight: 0.516)

60. Mean\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45 (weight: 0.577)

61. Mean\_previous\_application\_train\_csv\_DAYS\_FIRST\_DRAWING\_ (weight: 0.957)

62. Median\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5 (weight: 0.549)

63. Median\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5 (weight: 0.714)

64. Median\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5 (weight: 0.715)

65. Median\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.972)

66. Median\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225 (weight: 0.636)

67. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_ (weight: 0.769)

68. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.625)

69. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5 (weight: 0.654)

70. Median\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_1663\_5 (weight: 0.668)

71. Median\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_ (weight: 0.809)

72. Min\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_0\_0225 (weight: 0.697)

73. Min\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.855)

74. Min\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 0.806)

75. Min\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_TYPE\_\_\_Consumer\_credit (weight: 0.792)

76. Min\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025 (weight: 0.608)

77. Min\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5 (weight: 0.769)

78. Mode\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_ (weight: 0.968)

79. Mode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1 (weight: 0.743)

80. Mode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.607)

81. Mode\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_ (weight: 0.520)

82. Mode\_previous\_application\_train\_csv\_NAME\_SELLER\_INDUSTRY\_ (weight: 0.547)

83. StdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_ (weight: 1.000)

84. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_CNT\_INSTALMENT\_\_\_24\_5 (weight: 0.950)

85. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_ (weight: 0.937)

86. StdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5 (weight: 0.657)

87. StdDev\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.830)

88. StdDev\_credit\_card\_balance\_train\_csv\_AMT\_DRAWINGS\_ATM\_CURRENT\_ (weight: 0.697)

89. StdDev\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_in\_\_8783\_3025\_\_16549\_6725\_ (weight: 0.634)

90. StdDev\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_VERSION\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_1\_5 (weight: 0.980)

91. StdDev\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_ (weight: 0.578)

92. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.924)

93. Sum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_\_\_\_\_983\_5 (weight: 0.958)

94. Sum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.621)

95. Sum\_credit\_card\_balance\_train\_csv\_CNT\_DRAWINGS\_ATM\_CURRENT\_\_where\_AMT\_INST\_MIN\_REGULARITY\_\_\_0\_0225 (weight: 0.883)

96. Sum\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_INSTALMENT\_in\_\_\_1654\_5\_\_\_821\_5\_ (weight: 0.987)

97. LabelPAMT\_GOODS\_PRICE (weight: 0.854)

98. LabelPCODE\_GENDER (weight: 0.856)

99. LabelPCount\_bureau\_train\_csv\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 0.762)

100. LabelPCountDistinct\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_ (weight: 1.000)

101. LabelPCountDistinct\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_ (weight: 0.960)

102. LabelPDAYS\_BIRTH (weight: 0.651)

103. LabelPDEF\_30\_CNT\_SOCIAL\_CIRCLE (weight: 0.707)

104. LabelPEXT\_SOURCE\_1 (weight: 1.000)

105. LabelPEXT\_SOURCE\_2 (weight: 0.977)

106. LabelPFLAG\_DOCUMENT\_3 (weight: 0.796)

107. LabelPFLAG\_OWN\_CAR (weight: 0.837)

108. LabelPFLOORSMAX\_MODE (weight: 0.924)

109. LabelPLIVINGAPARTMENTS\_MEDI (weight: 0.756)

110. LabelPMax\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_\_\_\_7\_5 (weight: 0.865)

111. LabelPMax\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5 (weight: 0.561)

112. LabelPMax\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.767)

113. LabelPMax\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.595)

114. LabelPMax\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.774)

115. LabelPMax\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_0\_5 (weight: 0.851)

116. LabelPMax\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_\_0\_0225 (weight: 0.651)

117. LabelPMax\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_ (weight: 0.543)

118. LabelPMax\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_8088\_8175 (weight: 0.814)

119. LabelPMax\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_in\_\_8783\_3025\_\_16549\_6725\_ (weight: 0.764)

120. LabelPMax\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_SK\_ID\_PREV\_\_\_\_1897795\_5 (weight: 0.925)

121. LabelPMax\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5 (weight: 0.779)

122. LabelPMax\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_ (weight: 0.594)

123. LabelPMax\_previous\_application\_train\_csv\_CNT\_PAYMENT\_ (weight: 0.976)

124. LabelPMean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_CNT\_INSTALMENT\_\_\_24\_5 (weight: 0.510)

125. LabelPMean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_1897266 (weight: 0.593)

126. LabelPMean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5 (weight: 0.600)

127. LabelPMean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5 (weight: 0.770)

128. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_\_0\_0675 (weight: 0.510)

129. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 0.642)

130. LabelPMean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5 (weight: 0.849)

131. LabelPMean\_credit\_card\_balance\_train\_csv\_AMT\_CREDIT\_LIMIT\_ACTUAL\_\_where\_AMT\_BALANCE\_\_\_\_0\_0225 (weight: 0.823)

132. LabelPMean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025 (weight: 0.551)

133. LabelPMean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_\_1\_5 (weight: 0.832)

134. LabelPMean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45 (weight: 0.827)

135. LabelPMean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5 (weight: 0.712)

136. LabelPMedian\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5 (weight: 0.602)

137. LabelPMedian\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5 (weight: 0.574)

138. LabelPMedian\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5 (weight: 0.868)

139. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5 (weight: 0.539)

140. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225 (weight: 0.963)

141. LabelPMedian\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.967)

142. LabelPMedian\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_in\_\_0\_5\_\_1\_5\_ (weight: 0.864)

143. LabelPMedian\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_1663\_5 (weight: 0.607)

144. LabelPMedian\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_ (weight: 0.635)

145. LabelPMedian\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_ (weight: 0.684)

146. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 0.573)

147. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_0\_0225 (weight: 0.515)

148. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.938)

149. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.622)

150. LabelPMin\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025 (weight: 0.628)

151. LabelPMin\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5 (weight: 0.630)

152. LabelPMin\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_ (weight: 0.678)

153. LabelPMode\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_ (weight: 0.627)

154. LabelPMode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1 (weight: 0.757)

155. LabelPMode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.699)

156. LabelPMode\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_ (weight: 0.820)

157. LabelPMode\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_ (weight: 0.969)

158. LabelPNAME\_CONTRACT\_TYPE (weight: 0.569)

159. LabelPNAME\_EDUCATION\_TYPE (weight: 0.641)

160. LabelPOCCUPATION\_TYPE (weight: 0.889)

161. LabelPORGANIZATION\_TYPE (weight: 0.570)

162. LabelPOWN\_CAR\_AGE (weight: 0.637)

163. LabelPREGION\_POPULATION\_RELATIVE (weight: 0.522)

164. LabelPREGION\_RATING\_CLIENT\_W\_CITY (weight: 0.974)

165. LabelPREG\_CITY\_NOT\_WORK\_CITY (weight: 0.803)

166. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5 (weight: 0.876)

167. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_CNT\_INSTALMENT\_\_\_\_12\_5 (weight: 0.982)

168. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_ (weight: 0.578)

169. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_7\_5\_\_13\_5\_ (weight: 0.692)

170. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.782)

171. LabelPStdDev\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.765)

172. LabelPStdDev\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28 (weight: 0.571)

173. LabelPStdDev\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_in\_\_8783\_3025\_\_16549\_6725\_ (weight: 0.664)

174. LabelPStdDev\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_in\_\_8088\_8175\_\_15929\_28\_ (weight: 0.956)

175. LabelPStdDev\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_ (weight: 1.000)

176. LabelPSum\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_SK\_DPD\_\_\_\_0\_5 (weight: 0.997)

177. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.596)

178. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.945)

179. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405 (weight: 0.708)

180. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 0.782)

181. LabelPSum\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405 (weight: 0.572)

182. LabelPSum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_CREDIT\_TYPE\_\_\_\_Consumer\_credit (weight: 0.684)

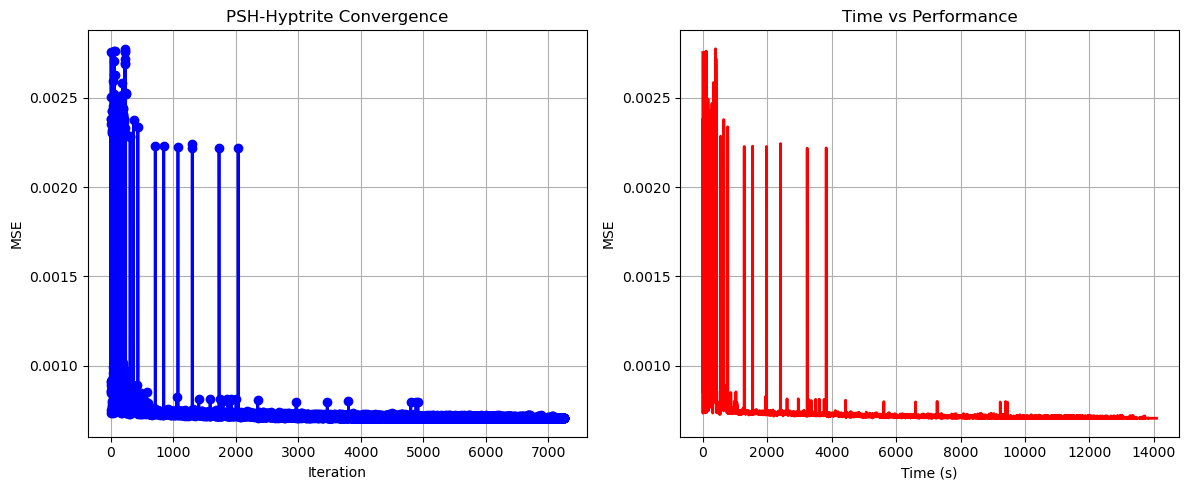
183. LabelPSum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_\_\_\_\_983\_5 (weight: 0.787)

184. LabelPSum\_credit\_card\_balance\_train\_csv\_CNT\_DRAWINGS\_ATM\_CURRENT\_\_where\_AMT\_INST\_MIN\_REGULARITY\_\_\_0\_0225 (weight: 0.996)

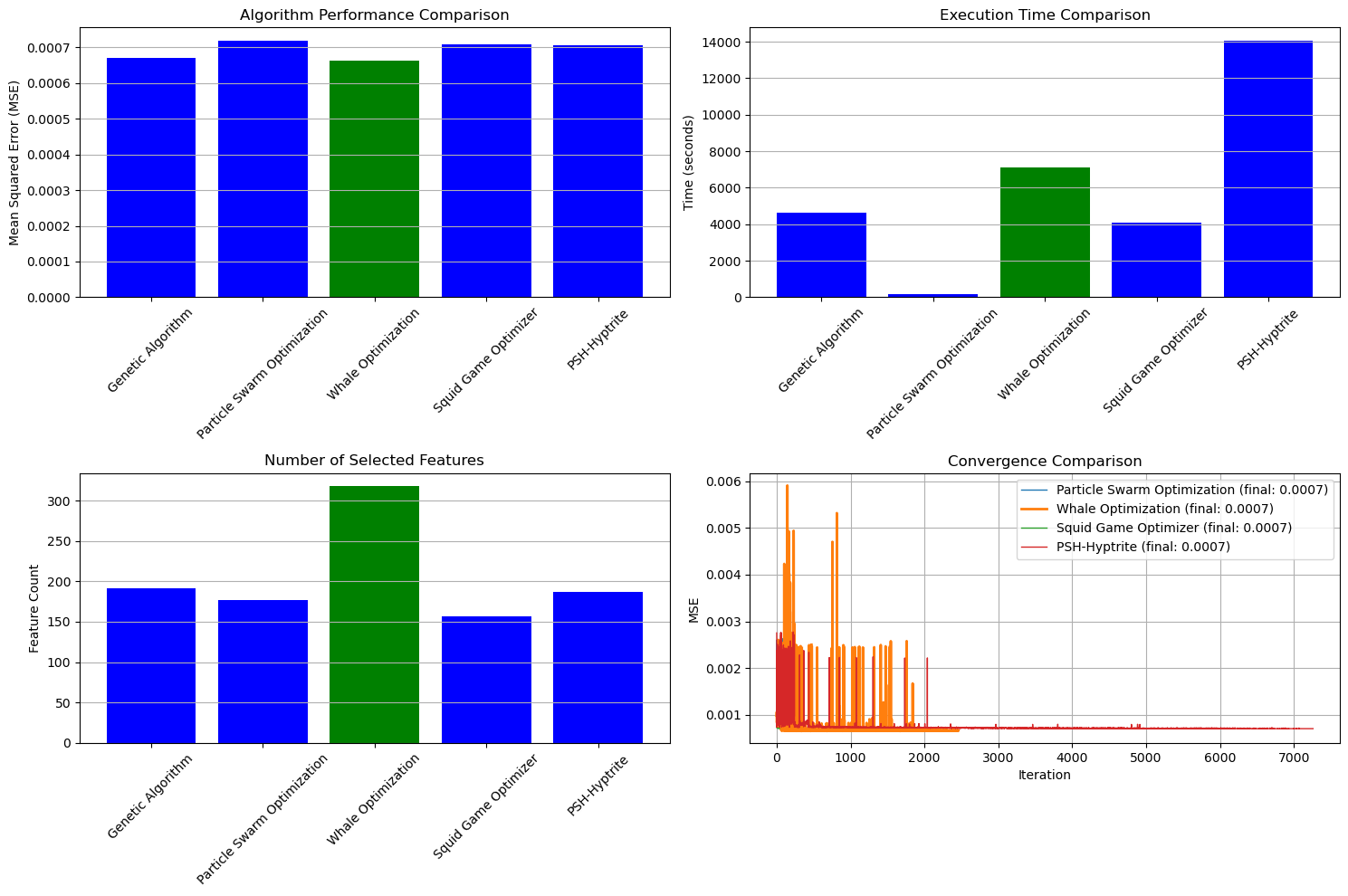
185. LabelPSum\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28 (weight: 0.538)

186. LabelPSum\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_8088\_8175 (weight: 0.568)

187. LabelPSum\_installments\_payments\_train\_csv\_SK\_ID\_PREV\_\_where\_AMT\_INSTALMENT\_\_\_16549\_6725 (weight: 0.943)



PSH-Hyptrite completed successfully with MSE: 0.0007



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FINAL RESULTS SUMMARY

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🏆 Best Algorithm: Whale Optimization

📉 Best MSE Achieved: 0.000662

⏱️ Execution Time: 7127.14 seconds

🔢 Features Selected: 318

Selected Features:

1. AMT\_ANNUITY

2. AMT\_CREDIT

3. AMT\_GOODS\_PRICE

4. CODE\_GENDER

5. DAYS\_BIRTH

6. DAYS\_EMPLOYED

7. DAYS\_ID\_PUBLISH

8. DEF\_60\_CNT\_SOCIAL\_CIRCLE

9. EXT\_SOURCE\_1

10. EXT\_SOURCE\_2

11. EXT\_SOURCE\_3

12. FLAG\_DOCUMENT\_3

13. FLAG\_EMP\_PHONE

14. FLAG\_OWN\_CAR

15. FLOORSMAX\_MEDI

16. FLOORSMAX\_MODE

17. FLOORSMIN\_MEDI

18. LIVINGAPARTMENTS\_MEDI

19. LIVINGAREA\_AVG

20. NAME\_CONTRACT\_TYPE

21. NAME\_EDUCATION\_TYPE

22. NAME\_FAMILY\_STATUS

23. NAME\_INCOME\_TYPE

24. OCCUPATION\_TYPE

25. ORGANIZATION\_TYPE

26. OWN\_CAR\_AGE

27. REGION\_POPULATION\_RELATIVE

28. REGION\_RATING\_CLIENT

29. REGION\_RATING\_CLIENT\_W\_CITY

30. REG\_CITY\_NOT\_LIVE\_CITY

31. REG\_CITY\_NOT\_WORK\_CITY

32. SK\_ID\_CURR

33. TARGET

34. YEARS\_BEGINEXPLUATATION\_AVG

35. Count\_POS\_CASH\_balance\_train\_csv\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_

36. Count\_POS\_CASH\_balance\_train\_csv\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

37. Count\_bureau\_train\_csv\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

38. Count\_bureau\_train\_csv\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

39. Count\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

40. Count\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

41. CountDistinct\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_

42. CountDistinct\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5

43. CountDistinct\_credit\_card\_balance\_train\_csv\_NAME\_CONTRACT\_STATUS\_\_where\_AMT\_RECIVABLE\_\_\_0\_0225

44. CountDistinct\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_

45. CountDistinct\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_

46. Max\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_\_\_\_7\_5

47. Max\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_SK\_DPD\_\_\_0\_5

48. Max\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

49. Max\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

50. Max\_bureau\_train\_csv\_CREDIT\_DAY\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225

51. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

52. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

53. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

54. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_0\_5

55. Max\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_\_0\_0225

56. Max\_credit\_card\_balance\_train\_csv\_CNT\_DRAWINGS\_CURRENT\_

57. Max\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_

58. Max\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_8088\_8175

59. Max\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_in\_\_8783\_3025\_\_16549\_6725\_

60. Max\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_in\_\_0\_5\_\_1\_5\_

61. Max\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_SK\_ID\_PREV\_\_\_\_1897795\_5

62. Max\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_

63. Max\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5

64. Max\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5

65. Max\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_

66. Max\_previous\_application\_train\_csv\_CNT\_PAYMENT\_

67. Mean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_CNT\_INSTALMENT\_\_\_24\_5

68. Mean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_\_1897266

69. Mean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_1897266

70. Mean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

71. Mean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5

72. Mean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_NAME\_CONTRACT\_STATUS\_\_\_Active

73. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_\_0\_0225

74. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_\_0\_5

75. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

76. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_\_\_\_124731\_405

77. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

78. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_\_0\_0675

79. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

80. Mean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1

81. Mean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

82. Mean\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

83. Mean\_credit\_card\_balance\_train\_csv\_AMT\_CREDIT\_LIMIT\_ACTUAL\_\_where\_AMT\_BALANCE\_\_\_\_0\_0225

84. Mean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025

85. Mean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_\_1\_5

86. Mean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

87. Mean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5

88. Mean\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

89. Mean\_previous\_application\_train\_csv\_DAYS\_FIRST\_DRAWING\_

90. Median\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

91. Median\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

92. Median\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5

93. Median\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5

94. Median\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

95. Median\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

96. Median\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225

97. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_

98. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

99. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5

100. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

101. Median\_credit\_card\_balance\_train\_csv\_AMT\_RECIVABLE\_\_where\_SK\_DPD\_DEF\_\_\_\_0\_5

102. Median\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_1663\_5

103. Median\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

104. Median\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_

105. Median\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_

106. Min\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_

107. Min\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

108. Min\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

109. Min\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_0\_0225

110. Min\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

111. Min\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

112. Min\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_TYPE\_\_\_Consumer\_credit

113. Min\_credit\_card\_balance\_train\_csv\_AMT\_DRAWINGS\_OTHER\_CURRENT\_

114. Min\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025

115. Min\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5

116. Min\_previous\_application\_train\_csv\_HOUR\_APPR\_PROCESS\_START\_

117. Min\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_

118. Mode\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_

119. Mode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1

120. Mode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

121. Mode\_bureau\_train\_csv\_CREDIT\_TYPE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

122. Mode\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_

123. Mode\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_

124. Mode\_previous\_application\_train\_csv\_NAME\_SELLER\_INDUSTRY\_

125. StdDev\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5

126. StdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_MONTHS\_BALANCE\_\_\_\_\_27\_5

127. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_CNT\_INSTALMENT\_\_\_\_12\_5

128. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_

129. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_CNT\_INSTALMENT\_\_\_24\_5

130. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_

131. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_7\_5\_\_13\_5\_

132. StdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

133. StdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5

134. StdDev\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

135. StdDev\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

136. StdDev\_credit\_card\_balance\_train\_csv\_AMT\_DRAWINGS\_ATM\_CURRENT\_

137. StdDev\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28

138. StdDev\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_in\_\_8783\_3025\_\_16549\_6725\_

139. StdDev\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_AMT\_PAYMENT\_in\_\_8088\_8175\_\_15929\_28\_

140. StdDev\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_in\_\_8088\_8175\_\_15929\_28\_

141. StdDev\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_NUM\_INSTALMENT\_NUMBER\_\_\_8\_5

142. StdDev\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_VERSION\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_1\_5

143. StdDev\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_

144. Sum\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_\_\_24\_5

145. Sum\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_SK\_DPD\_\_\_\_0\_5

146. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

147. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

148. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_CREDIT\_TYPE\_\_\_\_Consumer\_credit

149. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

150. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

151. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

152. Sum\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

153. Sum\_bureau\_train\_csv\_DAYS\_ENDDATE\_FACT\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5

154. Sum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_CREDIT\_TYPE\_\_\_\_Consumer\_credit

155. Sum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_\_\_\_\_983\_5

156. Sum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

157. Sum\_credit\_card\_balance\_train\_csv\_CNT\_DRAWINGS\_ATM\_CURRENT\_\_where\_AMT\_INST\_MIN\_REGULARITY\_\_\_0\_0225

158. Sum\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28

159. Sum\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_INSTALMENT\_in\_\_\_1654\_5\_\_\_821\_5\_

160. Sum\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

161. Sum\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_8088\_8175

162. Sum\_installments\_payments\_train\_csv\_SK\_ID\_PREV\_\_where\_AMT\_INSTALMENT\_\_\_16549\_6725

163. LabelPAMT\_ANNUITY

164. LabelPAMT\_CREDIT

165. LabelPAMT\_GOODS\_PRICE

166. LabelPCODE\_GENDER

167. LabelPCount\_POS\_CASH\_balance\_train\_csv\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_

168. LabelPCount\_POS\_CASH\_balance\_train\_csv\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

169. LabelPCount\_bureau\_train\_csv\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

170. LabelPCount\_bureau\_train\_csv\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

171. LabelPCount\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

172. LabelPCount\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

173. LabelPCountDistinct\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_

174. LabelPCountDistinct\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5

175. LabelPCountDistinct\_credit\_card\_balance\_train\_csv\_NAME\_CONTRACT\_STATUS\_\_where\_AMT\_RECIVABLE\_\_\_0\_0225

176. LabelPCountDistinct\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_

177. LabelPCountDistinct\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_

178. LabelPDAYS\_BIRTH

179. LabelPDAYS\_ID\_PUBLISH

180. LabelPDEF\_30\_CNT\_SOCIAL\_CIRCLE

181. LabelPDEF\_60\_CNT\_SOCIAL\_CIRCLE

182. LabelPEXT\_SOURCE\_1

183. LabelPEXT\_SOURCE\_2

184. LabelPEXT\_SOURCE\_3

185. LabelPFLAG\_DOCUMENT\_3

186. LabelPFLAG\_EMP\_PHONE

187. LabelPFLOORSMAX\_MEDI

188. LabelPFLOORSMAX\_MODE

189. LabelPFLOORSMIN\_MEDI

190. LabelPLIVINGAPARTMENTS\_MEDI

191. LabelPLIVINGAREA\_AVG

192. LabelPMax\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_\_\_\_7\_5

193. LabelPMax\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_SK\_DPD\_\_\_0\_5

194. LabelPMax\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

195. LabelPMax\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

196. LabelPMax\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

197. LabelPMax\_bureau\_train\_csv\_CREDIT\_DAY\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225

198. LabelPMax\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

199. LabelPMax\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

200. LabelPMax\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

201. LabelPMax\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_0\_5

202. LabelPMax\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_\_0\_0225

203. LabelPMax\_credit\_card\_balance\_train\_csv\_CNT\_DRAWINGS\_CURRENT\_

204. LabelPMax\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_

205. LabelPMax\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_8088\_8175

206. LabelPMax\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_in\_\_8783\_3025\_\_16549\_6725\_

207. LabelPMax\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_in\_\_0\_5\_\_1\_5\_

208. LabelPMax\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_SK\_ID\_PREV\_\_\_\_1897795\_5

209. LabelPMax\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_

210. LabelPMax\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5

211. LabelPMax\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5

212. LabelPMax\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_

213. LabelPMax\_previous\_application\_train\_csv\_CNT\_PAYMENT\_

214. LabelPMean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_CNT\_INSTALMENT\_\_\_24\_5

215. LabelPMean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_\_1897266

216. LabelPMean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_1897266

217. LabelPMean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

218. LabelPMean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5

219. LabelPMean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_NAME\_CONTRACT\_STATUS\_\_\_Active

220. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_\_0\_0225

221. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_\_0\_5

222. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

223. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

224. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_\_0\_0675

225. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

226. LabelPMean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1

227. LabelPMean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

228. LabelPMean\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

229. LabelPMean\_credit\_card\_balance\_train\_csv\_AMT\_CREDIT\_LIMIT\_ACTUAL\_\_where\_AMT\_BALANCE\_\_\_\_0\_0225

230. LabelPMean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025

231. LabelPMean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_\_1\_5

232. LabelPMean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

233. LabelPMean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5

234. LabelPMean\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

235. LabelPMean\_previous\_application\_train\_csv\_DAYS\_FIRST\_DRAWING\_

236. LabelPMedian\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

237. LabelPMedian\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5

238. LabelPMedian\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5

239. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5

240. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5

241. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

242. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225

243. LabelPMedian\_bureau\_train\_csv\_DAYS\_CREDIT\_

244. LabelPMedian\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

245. LabelPMedian\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5

246. LabelPMedian\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

247. LabelPMedian\_credit\_card\_balance\_train\_csv\_AMT\_RECIVABLE\_\_where\_SK\_DPD\_DEF\_\_\_\_0\_5

248. LabelPMedian\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_in\_\_0\_5\_\_1\_5\_

249. LabelPMedian\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_1663\_5

250. LabelPMedian\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

251. LabelPMedian\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_

252. LabelPMedian\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_

253. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_

254. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

255. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

256. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_0\_0225

257. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

258. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

259. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_TYPE\_\_\_Consumer\_credit

260. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

261. LabelPMin\_credit\_card\_balance\_train\_csv\_AMT\_DRAWINGS\_OTHER\_CURRENT\_

262. LabelPMin\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025

263. LabelPMin\_previous\_application\_train\_csv\_HOUR\_APPR\_PROCESS\_START\_

264. LabelPMin\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_

265. LabelPMode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

266. LabelPMode\_bureau\_train\_csv\_CREDIT\_TYPE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

267. LabelPMode\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_

268. LabelPMode\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_

269. LabelPMode\_previous\_application\_train\_csv\_NAME\_SELLER\_INDUSTRY\_

270. LabelPNAME\_CONTRACT\_TYPE

271. LabelPNAME\_EDUCATION\_TYPE

272. LabelPNAME\_FAMILY\_STATUS

273. LabelPNAME\_INCOME\_TYPE

274. LabelPOCCUPATION\_TYPE

275. LabelPORGANIZATION\_TYPE

276. LabelPOWN\_CAR\_AGE

277. LabelPREGION\_POPULATION\_RELATIVE

278. LabelPREGION\_RATING\_CLIENT\_W\_CITY

279. LabelPREG\_CITY\_NOT\_LIVE\_CITY

280. LabelPREG\_CITY\_NOT\_WORK\_CITY

281. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5

282. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_

283. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_MONTHS\_BALANCE\_\_\_\_\_27\_5

284. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_CNT\_INSTALMENT\_\_\_\_12\_5

285. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_

286. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_CNT\_INSTALMENT\_\_\_24\_5

287. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_

288. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_7\_5\_\_13\_5\_

289. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

290. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5

291. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

292. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

293. LabelPStdDev\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

294. LabelPStdDev\_credit\_card\_balance\_train\_csv\_AMT\_DRAWINGS\_ATM\_CURRENT\_

295. LabelPStdDev\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28

296. LabelPStdDev\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_in\_\_8783\_3025\_\_16549\_6725\_

297. LabelPStdDev\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_AMT\_PAYMENT\_in\_\_8088\_8175\_\_15929\_28\_

298. LabelPStdDev\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_in\_\_8088\_8175\_\_15929\_28\_

299. LabelPStdDev\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_VERSION\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_1\_5

300. LabelPStdDev\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_

301. LabelPSum\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_\_\_24\_5

302. LabelPSum\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_SK\_DPD\_\_\_\_0\_5

303. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675

304. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

305. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_CREDIT\_TYPE\_\_\_\_Consumer\_credit

306. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

307. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

308. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed

309. LabelPSum\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405

310. LabelPSum\_bureau\_train\_csv\_DAYS\_ENDDATE\_FACT\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5

311. LabelPSum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_\_\_\_\_983\_5

312. LabelPSum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

313. LabelPSum\_credit\_card\_balance\_train\_csv\_CNT\_DRAWINGS\_ATM\_CURRENT\_\_where\_AMT\_INST\_MIN\_REGULARITY\_\_\_0\_0225

314. LabelPSum\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28

315. LabelPSum\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_INSTALMENT\_in\_\_\_1654\_5\_\_\_821\_5\_

316. LabelPSum\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45

317. LabelPSum\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_8088\_8175

318. LabelPYEARS\_BEGINEXPLUATATION\_AVG