==================================================

Running Genetic Algorithm...

==================================================

==================================================

=== GENETIC ALGORITHM OPTIMIZATION ===

==================================================

[Initialization]

- Population size: 30

- Generations: 20

- Crossover rate: 80%

- Mutation rate: 20%

- Search space: 334 features

- Target: Minimize MSE using CatBoost

[Evolution Progress]

Gen 01/20 | Best MSE: 0.000843 | Avg MSE: 0.000993

Gen 06/20 | Best MSE: 0.000802 | Avg MSE: 0.000819

Gen 11/20 | Best MSE: 0.000799 | Avg MSE: 0.000805

Gen 16/20 | Best MSE: 0.000793 | Avg MSE: 0.000799

Gen 20/20 | Best MSE: 0.000789 | Avg MSE: 0.000793

==================================================

=== OPTIMIZATION RESULTS ===

==================================================

▶ Best MSE achieved: 0.000789

▶ Time elapsed: 706.06 seconds

▶ Features selected: 178/334 (46.7% reduction)

▶ Selected features:

1. AMT\_ANNUITY

2. AMT\_CREDIT

3. AMT\_GOODS\_PRICE

4. DAYS\_ID\_PUBLISH

5. EXT\_SOURCE\_1

6. EXT\_SOURCE\_2

7. EXT\_SOURCE\_3

8. FLAG\_OWN\_CAR

9. FLOORSMIN\_MEDI

10. NAME\_CONTRACT\_TYPE

11. OCCUPATION\_TYPE

12. ORGANIZATION\_TYPE

13. OWN\_CAR\_AGE

14. REGION\_POPULATION\_RELATIVE

15. TARGET

16. YEARS\_BEGINEXPLUATATION\_AVG

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

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

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

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

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

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

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

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

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

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

27. Max\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_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\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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\_ID\_PREV\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_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\_SUM\_DEBT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

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

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

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

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

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

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

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

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

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

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

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

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

90. LabelPAMT\_CREDIT

91. LabelPAMT\_GOODS\_PRICE

92. LabelPCODE\_GENDER

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

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

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

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

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

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

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

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

101. LabelPDAYS\_ID\_PUBLISH

102. LabelPDEF\_60\_CNT\_SOCIAL\_CIRCLE

103. LabelPEXT\_SOURCE\_2

104. LabelPEXT\_SOURCE\_3

105. LabelPFLAG\_DOCUMENT\_3

106. LabelPFLOORSMAX\_MODE

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

148. LabelPMin\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5

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

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

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

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

153. LabelPNAME\_EDUCATION\_TYPE

154. LabelPNAME\_INCOME\_TYPE

155. LabelPOCCUPATION\_TYPE

156. LabelPORGANIZATION\_TYPE

157. LabelPOWN\_CAR\_AGE

158. LabelPREGION\_RATING\_CLIENT

159. LabelPREG\_CITY\_NOT\_LIVE\_CITY

160. LabelPREG\_CITY\_NOT\_WORK\_CITY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

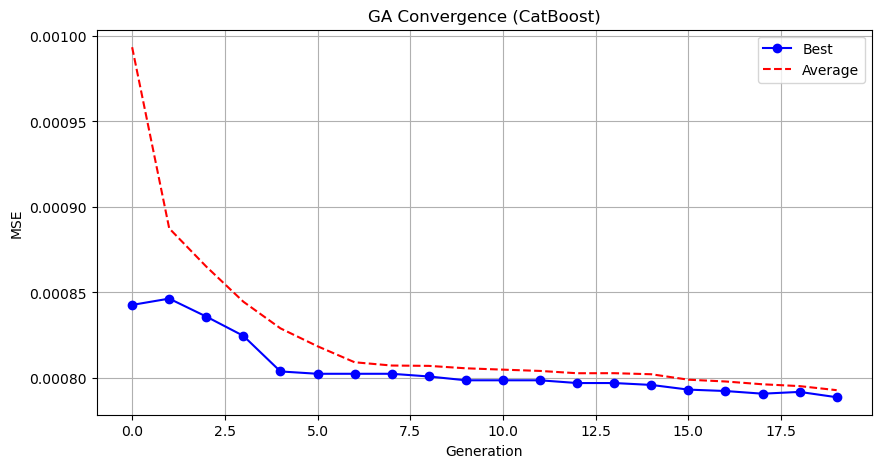
178. LabelPSum\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_8088\_8175

▶ Convergence progress:

- Initial MSE: 0.0008

- Final MSE: 0.0008

- Improvement: 6.4%



Genetic Algorithm completed successfully with MSE: 0.0008

==================================================

Running Particle Swarm Optimization...

==================================================

==================================================

=== PARTICLE SWARM OPTIMIZATION ===

==================================================

[Initialization]

- Swarm size: 30 particles

- Iterations: 20

- Cognitive weight: 0.5

- Social weight: 0.5

- Inertia weight: 0.5

- Search space: 334 features

- Target: Minimize MSE using CatBoost

==================================================

=== OPTIMIZATION RESULTS ===

==================================================

▶ Best MSE achieved: 0.000845

▶ Time elapsed: 104.40 seconds

▶ Features selected: 183/334 (45.2% reduction)

▶ Selected features (with weights):

1. AMT\_CREDIT (weight: 0.577)

2. AMT\_GOODS\_PRICE (weight: 0.884)

3. DAYS\_EMPLOYED (weight: 0.716)

4. DAYS\_ID\_PUBLISH (weight: 1.000)

5. DEF\_30\_CNT\_SOCIAL\_CIRCLE (weight: 0.790)

6. EXT\_SOURCE\_1 (weight: 0.793)

7. EXT\_SOURCE\_2 (weight: 0.734)

8. EXT\_SOURCE\_3 (weight: 0.887)

9. FLAG\_DOCUMENT\_3 (weight: 0.573)

10. FLAG\_EMP\_PHONE (weight: 0.841)

11. FLAG\_OWN\_CAR (weight: 0.695)

12. FLOORSMIN\_MEDI (weight: 0.697)

13. LIVINGAREA\_AVG (weight: 0.662)

14. NAME\_CONTRACT\_TYPE (weight: 0.582)

15. NAME\_EDUCATION\_TYPE (weight: 0.938)

16. NAME\_FAMILY\_STATUS (weight: 1.000)

17. NAME\_INCOME\_TYPE (weight: 0.649)

18. ORGANIZATION\_TYPE (weight: 1.000)

19. OWN\_CAR\_AGE (weight: 0.743)

20. REGION\_POPULATION\_RELATIVE (weight: 0.850)

21. REGION\_RATING\_CLIENT (weight: 0.876)

22. REGION\_RATING\_CLIENT\_W\_CITY (weight: 0.513)

23. REG\_CITY\_NOT\_LIVE\_CITY (weight: 1.000)

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

25. SK\_ID\_CURR (weight: 0.707)

26. YEARS\_BEGINEXPLUATATION\_AVG (weight: 0.684)

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

28. Count\_POS\_CASH\_balance\_train\_csv\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5 (weight: 0.698)

29. CountDistinct\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5 (weight: 0.798)

30. CountDistinct\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_ (weight: 0.669)

31. CountDistinct\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_ (weight: 0.685)

32. Max\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_\_\_\_7\_5 (weight: 0.504)

33. Max\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.890)

34. Max\_bureau\_train\_csv\_CREDIT\_DAY\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225 (weight: 0.593)

35. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.534)

36. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5 (weight: 0.796)

37. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.637)

38. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_0\_5 (weight: 1.000)

39. Max\_credit\_card\_balance\_train\_csv\_CNT\_DRAWINGS\_CURRENT\_ (weight: 0.695)

40. Max\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_ (weight: 0.873)

41. Max\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_8088\_8175 (weight: 0.849)

42. Max\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_in\_\_0\_5\_\_1\_5\_ (weight: 0.619)

43. Max\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5 (weight: 0.678)

44. Max\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5 (weight: 0.979)

45. Max\_previous\_application\_train\_csv\_CNT\_PAYMENT\_ (weight: 1.000)

46. Mean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_CNT\_INSTALMENT\_\_\_24\_5 (weight: 0.727)

47. Mean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_\_1897266 (weight: 0.813)

48. Mean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_1897266 (weight: 0.549)

49. Mean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5 (weight: 1.000)

50. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_\_0\_0225 (weight: 0.662)

51. Mean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1 (weight: 0.893)

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

53. Mean\_credit\_card\_balance\_train\_csv\_AMT\_CREDIT\_LIMIT\_ACTUAL\_\_where\_AMT\_BALANCE\_\_\_\_0\_0225 (weight: 0.757)

54. Mean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025 (weight: 0.797)

55. Mean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5 (weight: 0.765)

56. Mean\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45 (weight: 0.620)

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

58. Median\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5 (weight: 0.755)

59. Median\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5 (weight: 1.000)

60. Median\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.901)

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

62. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_ (weight: 0.668)

63. Median\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_1663\_5 (weight: 1.000)

64. Median\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45 (weight: 0.696)

65. Median\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_ (weight: 1.000)

66. Median\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_ (weight: 1.000)

67. Min\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 1.000)

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\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.842)

70. Min\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.817)

71. Min\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025 (weight: 0.926)

72. Min\_previous\_application\_train\_csv\_HOUR\_APPR\_PROCESS\_START\_ (weight: 0.998)

73. Mode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1 (weight: 0.781)

74. Mode\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_ (weight: 0.942)

75. Mode\_previous\_application\_train\_csv\_NAME\_SELLER\_INDUSTRY\_ (weight: 1.000)

76. StdDev\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5 (weight: 1.000)

77. StdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_MONTHS\_BALANCE\_\_\_\_\_27\_5 (weight: 0.522)

78. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_CNT\_INSTALMENT\_\_\_\_12\_5 (weight: 0.852)

79. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_ (weight: 0.650)

80. StdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5 (weight: 0.797)

81. StdDev\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 1.000)

82. StdDev\_credit\_card\_balance\_train\_csv\_AMT\_DRAWINGS\_ATM\_CURRENT\_ (weight: 1.000)

83. StdDev\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28 (weight: 0.729)

84. StdDev\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_in\_\_8783\_3025\_\_16549\_6725\_ (weight: 1.000)

85. StdDev\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_in\_\_8088\_8175\_\_15929\_28\_ (weight: 0.662)

86. StdDev\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_NUM\_INSTALMENT\_NUMBER\_\_\_8\_5 (weight: 0.857)

87. StdDev\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_VERSION\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_1\_5 (weight: 0.824)

88. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.567)

89. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_CREDIT\_TYPE\_\_\_\_Consumer\_credit (weight: 0.815)

90. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 0.678)

91. Sum\_bureau\_train\_csv\_DAYS\_ENDDATE\_FACT\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5 (weight: 0.948)

92. Sum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_CREDIT\_TYPE\_\_\_\_Consumer\_credit (weight: 0.903)

93. Sum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 1.000)

94. Sum\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28 (weight: 0.563)

95. Sum\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_INSTALMENT\_in\_\_\_1654\_5\_\_\_821\_5\_ (weight: 1.000)

96. Sum\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45 (weight: 0.712)

97. Sum\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_8088\_8175 (weight: 0.788)

98. LabelPAMT\_ANNUITY (weight: 0.985)

99. LabelPAMT\_GOODS\_PRICE (weight: 0.903)

100. LabelPCODE\_GENDER (weight: 0.532)

101. LabelPCount\_bureau\_train\_csv\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 0.786)

102. LabelPCount\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5 (weight: 0.963)

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

104. LabelPCountDistinct\_credit\_card\_balance\_train\_csv\_NAME\_CONTRACT\_STATUS\_\_where\_AMT\_RECIVABLE\_\_\_0\_0225 (weight: 1.000)

105. LabelPCountDistinct\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_ (weight: 0.717)

106. LabelPCountDistinct\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_ (weight: 0.795)

107. LabelPDEF\_30\_CNT\_SOCIAL\_CIRCLE (weight: 0.943)

108. LabelPDEF\_60\_CNT\_SOCIAL\_CIRCLE (weight: 0.789)

109. LabelPEXT\_SOURCE\_2 (weight: 0.927)

110. LabelPFLAG\_DOCUMENT\_3 (weight: 0.823)

111. LabelPFLAG\_EMP\_PHONE (weight: 0.853)

112. LabelPFLAG\_OWN\_CAR (weight: 0.813)

113. LabelPFLOORSMIN\_MEDI (weight: 0.879)

114. LabelPLIVINGAREA\_AVG (weight: 0.580)

115. LabelPMax\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_\_\_\_7\_5 (weight: 0.685)

116. LabelPMax\_bureau\_train\_csv\_CREDIT\_DAY\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225 (weight: 0.778)

117. LabelPMax\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5 (weight: 0.662)

118. LabelPMax\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_0\_5 (weight: 0.785)

119. LabelPMax\_credit\_card\_balance\_train\_csv\_CNT\_DRAWINGS\_CURRENT\_ (weight: 0.894)

120. LabelPMax\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_ (weight: 0.565)

121. LabelPMax\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_8088\_8175 (weight: 0.812)

122. LabelPMax\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_SK\_ID\_PREV\_\_\_\_1897795\_5 (weight: 0.902)

123. LabelPMax\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5 (weight: 0.568)

124. LabelPMax\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5 (weight: 0.935)

125. LabelPMax\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_ (weight: 0.903)

126. LabelPMean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_NAME\_CONTRACT\_STATUS\_\_\_Active (weight: 0.606)

127. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_\_0\_0225 (weight: 0.614)

128. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 1.000)

129. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_\_\_\_124731\_405 (weight: 0.603)

130. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405 (weight: 1.000)

131. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_\_0\_0675 (weight: 0.620)

132. LabelPMean\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.874)

133. LabelPMean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45 (weight: 0.866)

134. LabelPMean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5 (weight: 0.609)

135. LabelPMean\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45 (weight: 1.000)

136. LabelPMedian\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5 (weight: 1.000)

137. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5 (weight: 0.894)

138. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225 (weight: 0.996)

139. LabelPMedian\_bureau\_train\_csv\_DAYS\_CREDIT\_ (weight: 0.914)

140. LabelPMedian\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 1.000)

141. LabelPMedian\_credit\_card\_balance\_train\_csv\_AMT\_RECIVABLE\_\_where\_SK\_DPD\_DEF\_\_\_\_0\_5 (weight: 0.696)

142. LabelPMedian\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45 (weight: 0.759)

143. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_ (weight: 0.777)

144. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 1.000)

145. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.778)

146. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 0.874)

147. LabelPMin\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025 (weight: 0.683)

148. LabelPMin\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_ (weight: 0.718)

149. LabelPMode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1 (weight: 1.000)

150. LabelPMode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.669)

151. LabelPMode\_bureau\_train\_csv\_CREDIT\_TYPE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.849)

152. LabelPMode\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_ (weight: 1.000)

153. LabelPMode\_previous\_application\_train\_csv\_NAME\_SELLER\_INDUSTRY\_ (weight: 0.662)

154. LabelPNAME\_CONTRACT\_TYPE (weight: 0.605)

155. LabelPNAME\_FAMILY\_STATUS (weight: 1.000)

156. LabelPNAME\_INCOME\_TYPE (weight: 1.000)

157. LabelPOCCUPATION\_TYPE (weight: 1.000)

158. LabelPOWN\_CAR\_AGE (weight: 1.000)

159. LabelPREGION\_POPULATION\_RELATIVE (weight: 0.842)

160. LabelPREGION\_RATING\_CLIENT\_W\_CITY (weight: 0.979)

161. LabelPREG\_CITY\_NOT\_WORK\_CITY (weight: 0.708)

162. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5 (weight: 0.586)

163. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_ (weight: 0.958)

164. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_MONTHS\_BALANCE\_\_\_\_\_27\_5 (weight: 0.911)

165. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_CNT\_INSTALMENT\_\_\_24\_5 (weight: 0.899)

166. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_ (weight: 1.000)

167. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_ENDDATE\_FACT\_\_\_\_\_1678\_5 (weight: 0.562)

168. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.972)

169. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405 (weight: 0.744)

170. LabelPStdDev\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28 (weight: 1.000)

171. LabelPStdDev\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_AMT\_PAYMENT\_in\_\_8088\_8175\_\_15929\_28\_ (weight: 0.846)

172. LabelPStdDev\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_NUM\_INSTALMENT\_NUMBER\_\_\_8\_5 (weight: 0.782)

173. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_CREDIT\_TYPE\_\_\_\_Consumer\_credit (weight: 1.000)

174. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405 (weight: 1.000)

175. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 1.000)

176. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 0.640)

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

178. LabelPSum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_CREDIT\_TYPE\_\_\_\_Consumer\_credit (weight: 0.651)

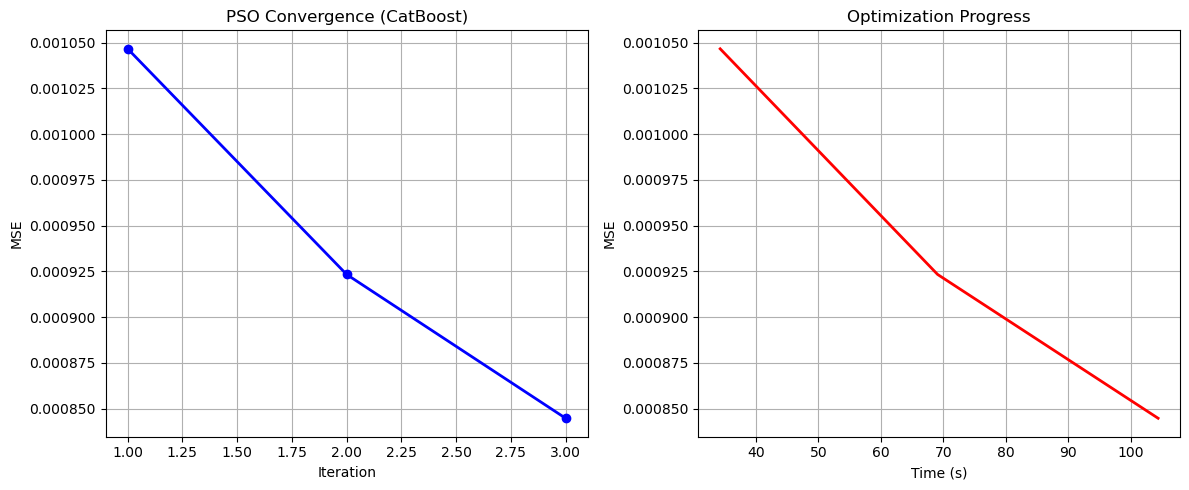
179. LabelPSum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_\_\_\_\_983\_5 (weight: 1.000)

180. LabelPSum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.678)

181. LabelPSum\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28 (weight: 0.646)

182. LabelPSum\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_INSTALMENT\_in\_\_\_1654\_5\_\_\_821\_5\_ (weight: 0.975)

183. LabelPYEARS\_BEGINEXPLUATATION\_AVG (weight: 0.792)



Particle Swarm Optimization completed successfully with MSE: 0.0008

==================================================

Running Whale Optimization...

==================================================

==================================================

=== WHALE OPTIMIZATION ALGORITHM ===

==================================================

[Initialization]

- Population: 30 whales

- Max iterations: 20

- Spiral coefficient (b): 1.0

- Search space: 334 features

- Target: Minimize MSE using CatBoost

[Optimization Progress]

Iter 20/20 | Best MSE: 0.000767

==================================================

=== OPTIMIZATION RESULTS ===

==================================================

▶ Best MSE achieved: 0.000767

▶ Time elapsed: 940.23 seconds

▶ Features selected: 334/334 (0.0% 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\_30\_CNT\_SOCIAL\_CIRCLE

9. DEF\_60\_CNT\_SOCIAL\_CIRCLE

10. EXT\_SOURCE\_1

11. EXT\_SOURCE\_2

12. EXT\_SOURCE\_3

13. FLAG\_DOCUMENT\_3

14. FLAG\_EMP\_PHONE

15. FLAG\_OWN\_CAR

16. FLOORSMAX\_MEDI

17. FLOORSMAX\_MODE

18. FLOORSMIN\_MEDI

19. LIVINGAPARTMENTS\_MEDI

20. LIVINGAREA\_AVG

21. NAME\_CONTRACT\_TYPE

22. NAME\_EDUCATION\_TYPE

23. NAME\_FAMILY\_STATUS

24. NAME\_INCOME\_TYPE

25. OCCUPATION\_TYPE

26. ORGANIZATION\_TYPE

27. OWN\_CAR\_AGE

28. REGION\_POPULATION\_RELATIVE

29. REGION\_RATING\_CLIENT

30. REGION\_RATING\_CLIENT\_W\_CITY

31. REG\_CITY\_NOT\_LIVE\_CITY

32. REG\_CITY\_NOT\_WORK\_CITY

33. SK\_ID\_CURR

34. TARGET

35. YEARS\_BEGINEXPLUATATION\_AVG

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

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

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

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

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

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

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

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

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

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

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

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

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

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

50. Max\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

169. LabelPAMT\_ANNUITY

170. LabelPAMT\_CREDIT

171. LabelPAMT\_GOODS\_PRICE

172. LabelPCODE\_GENDER

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

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

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

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

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

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

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

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

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

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

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

184. LabelPDAYS\_BIRTH

185. LabelPDAYS\_EMPLOYED

186. LabelPDAYS\_ID\_PUBLISH

187. LabelPDEF\_30\_CNT\_SOCIAL\_CIRCLE

188. LabelPDEF\_60\_CNT\_SOCIAL\_CIRCLE

189. LabelPEXT\_SOURCE\_1

190. LabelPEXT\_SOURCE\_2

191. LabelPEXT\_SOURCE\_3

192. LabelPFLAG\_DOCUMENT\_3

193. LabelPFLAG\_EMP\_PHONE

194. LabelPFLAG\_OWN\_CAR

195. LabelPFLOORSMAX\_MEDI

196. LabelPFLOORSMAX\_MODE

197. LabelPFLOORSMIN\_MEDI

198. LabelPLIVINGAPARTMENTS\_MEDI

199. LabelPLIVINGAREA\_AVG

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

272. LabelPMin\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5

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

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

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

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

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

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

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

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

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

282. LabelPNAME\_CONTRACT\_TYPE

283. LabelPNAME\_EDUCATION\_TYPE

284. LabelPNAME\_FAMILY\_STATUS

285. LabelPNAME\_INCOME\_TYPE

286. LabelPOCCUPATION\_TYPE

287. LabelPORGANIZATION\_TYPE

288. LabelPOWN\_CAR\_AGE

289. LabelPREGION\_POPULATION\_RELATIVE

290. LabelPREGION\_RATING\_CLIENT

291. LabelPREGION\_RATING\_CLIENT\_W\_CITY

292. LabelPREG\_CITY\_NOT\_LIVE\_CITY

293. LabelPREG\_CITY\_NOT\_WORK\_CITY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

312. LabelPStdDev\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_NUM\_INSTALMENT\_NUMBER\_\_\_8\_5

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

333. LabelPSum\_installments\_payments\_train\_csv\_SK\_ID\_PREV\_\_where\_AMT\_INSTALMENT\_\_\_16549\_6725

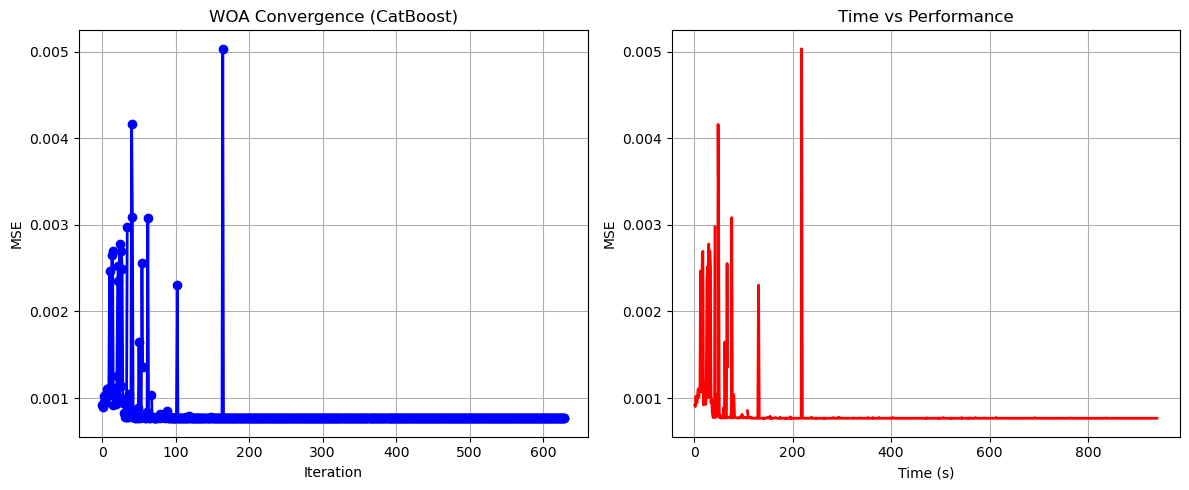
334. LabelPYEARS\_BEGINEXPLUATATION\_AVG

▶ Convergence progress:

- Initial MSE: 0.0009

- Final MSE: 0.0008

- Improvement: 16.5%



Whale Optimization completed successfully with MSE: 0.0008

==================================================

Running Squid Game Optimizer...

==================================================

==================================================

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

==================================================

[Initialization]

- Players: 30 (15 offensive, 15 defensive)

- Max games: 20

- Search space: 334 features

- Target: Minimize MSE using CatBoost

==================================================

=== OPTIMIZATION RESULTS ===

==================================================

▶ Best MSE achieved: 0.000838

▶ Time elapsed: 718.60 seconds

▶ Features selected: 159/334 (52.4% reduction)

▶ Selected features:

1. AMT\_CREDIT

2. AMT\_GOODS\_PRICE

3. DAYS\_ID\_PUBLISH

4. DEF\_60\_CNT\_SOCIAL\_CIRCLE

5. EXT\_SOURCE\_2

6. EXT\_SOURCE\_3

7. FLAG\_DOCUMENT\_3

8. FLOORSMAX\_MODE

9. FLOORSMIN\_MEDI

10. LIVINGAREA\_AVG

11. NAME\_CONTRACT\_TYPE

12. NAME\_EDUCATION\_TYPE

13. OCCUPATION\_TYPE

14. REGION\_POPULATION\_RELATIVE

15. REG\_CITY\_NOT\_WORK\_CITY

16. SK\_ID\_CURR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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\_UPDATE\_\_where\_CREDIT\_TYPE\_\_\_Consumer\_credit

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

85. LabelPAMT\_GOODS\_PRICE

86. LabelPCODE\_GENDER

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

88. LabelPDAYS\_EMPLOYED

89. LabelPDEF\_30\_CNT\_SOCIAL\_CIRCLE

90. LabelPEXT\_SOURCE\_1

91. LabelPEXT\_SOURCE\_2

92. LabelPEXT\_SOURCE\_3

93. LabelPFLAG\_EMP\_PHONE

94. LabelPFLAG\_OWN\_CAR

95. LabelPFLOORSMAX\_MEDI

96. LabelPFLOORSMIN\_MEDI

97. LabelPLIVINGAREA\_AVG

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\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

130. LabelPNAME\_CONTRACT\_TYPE

131. LabelPNAME\_FAMILY\_STATUS

132. LabelPNAME\_INCOME\_TYPE

133. LabelPOCCUPATION\_TYPE

134. LabelPORGANIZATION\_TYPE

135. LabelPOWN\_CAR\_AGE

136. LabelPREG\_CITY\_NOT\_LIVE\_CITY

137. LabelPREG\_CITY\_NOT\_WORK\_CITY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

158. LabelPSum\_installments\_payments\_train\_csv\_SK\_ID\_PREV\_\_where\_AMT\_INSTALMENT\_\_\_16549\_6725

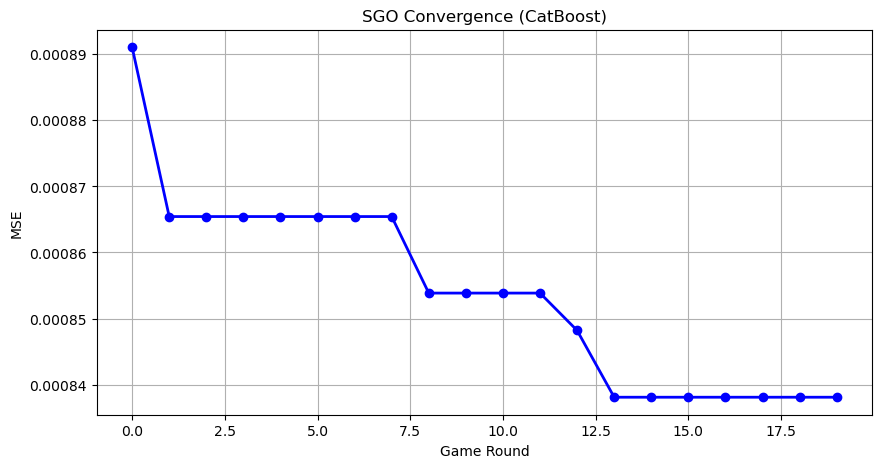
159. LabelPYEARS\_BEGINEXPLUATATION\_AVG

▶ Convergence progress:

- Initial MSE: 0.0009

- Final MSE: 0.0008

- Improvement: 5.9%



Squid Game Optimizer completed successfully with MSE: 0.0008

==================================================

Running PSH-Hyptrite...

==================================================

==================================================

=== PSH-HYPTRITE OPTIMIZATION ===

==================================================

[Initialization]

- Search points: 30

- Max iterations: 20

- Initial radius: 0.5 (adaptive)

- Hypersphere samples: 3 per point

- Search space: 334 features

- Target: Minimize MSE using CatBoost

[Optimization Progress]

Iter 20/20 | Best MSE: 0.000834 | Radius: 0.0250

==================================================

=== OPTIMIZATION RESULTS ===

==================================================

▶ Best MSE achieved: 0.000834

▶ Time elapsed: 2156.42 seconds

▶ Features selected: 176/334 (47.3% reduction)

▶ Selected features (with weights):

1. AMT\_CREDIT (weight: 0.907)

2. DAYS\_BIRTH (weight: 0.969)

3. DAYS\_EMPLOYED (weight: 0.542)

4. EXT\_SOURCE\_1 (weight: 0.682)

5. EXT\_SOURCE\_2 (weight: 0.873)

6. EXT\_SOURCE\_3 (weight: 0.764)

7. FLAG\_DOCUMENT\_3 (weight: 0.740)

8. FLAG\_OWN\_CAR (weight: 0.506)

9. FLOORSMAX\_MEDI (weight: 0.638)

10. FLOORSMAX\_MODE (weight: 0.759)

11. LIVINGAREA\_AVG (weight: 0.709)

12. NAME\_CONTRACT\_TYPE (weight: 0.582)

13. NAME\_EDUCATION\_TYPE (weight: 0.582)

14. OCCUPATION\_TYPE (weight: 0.717)

15. OWN\_CAR\_AGE (weight: 0.723)

16. REGION\_POPULATION\_RELATIVE (weight: 0.891)

17. REGION\_RATING\_CLIENT (weight: 0.553)

18. REGION\_RATING\_CLIENT\_W\_CITY (weight: 0.995)

19. REG\_CITY\_NOT\_LIVE\_CITY (weight: 0.690)

20. REG\_CITY\_NOT\_WORK\_CITY (weight: 0.751)

21. SK\_ID\_CURR (weight: 0.826)

22. Count\_POS\_CASH\_balance\_train\_csv\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_ (weight: 0.612)

23. Count\_POS\_CASH\_balance\_train\_csv\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5 (weight: 0.574)

24. Count\_bureau\_train\_csv\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.860)

25. Count\_bureau\_train\_csv\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 0.651)

26. Count\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.837)

27. CountDistinct\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_ (weight: 0.874)

28. CountDistinct\_credit\_card\_balance\_train\_csv\_NAME\_CONTRACT\_STATUS\_\_where\_AMT\_RECIVABLE\_\_\_0\_0225 (weight: 0.571)

29. Max\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_\_\_\_7\_5 (weight: 0.749)

30. Max\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_SK\_DPD\_\_\_0\_5 (weight: 0.639)

31. Max\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5 (weight: 0.786)

32. Max\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.931)

33. Max\_bureau\_train\_csv\_CREDIT\_DAY\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225 (weight: 0.556)

34. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.521)

35. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.768)

36. Max\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_0\_5 (weight: 0.616)

37. Max\_credit\_card\_balance\_train\_csv\_CNT\_DRAWINGS\_CURRENT\_ (weight: 0.764)

38. Max\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_in\_\_8783\_3025\_\_16549\_6725\_ (weight: 0.882)

39. Max\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_ (weight: 0.726)

40. Max\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5 (weight: 0.955)

41. Max\_previous\_application\_train\_csv\_AMT\_DOWN\_PAYMENT\_ (weight: 0.560)

42. Max\_previous\_application\_train\_csv\_CNT\_PAYMENT\_ (weight: 0.803)

43. Mean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_CNT\_INSTALMENT\_\_\_24\_5 (weight: 0.601)

44. Mean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_\_1897266 (weight: 0.761)

45. Mean\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5 (weight: 0.820)

46. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_LIMIT\_\_\_\_0\_0225 (weight: 0.710)

47. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_\_\_\_124731\_405 (weight: 0.901)

48. Mean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_\_0\_0675 (weight: 0.787)

49. Mean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1 (weight: 0.598)

50. Mean\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.707)

51. Mean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45 (weight: 0.977)

52. Mean\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_369\_5 (weight: 0.725)

53. Mean\_previous\_application\_train\_csv\_DAYS\_FIRST\_DRAWING\_ (weight: 0.885)

54. Median\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5 (weight: 0.503)

55. Median\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5 (weight: 0.806)

56. Median\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5 (weight: 0.506)

57. Median\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5 (weight: 0.763)

58. Median\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.576)

59. Median\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225 (weight: 0.933)

60. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_ (weight: 0.671)

61. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5 (weight: 0.885)

62. Median\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.630)

63. Median\_credit\_card\_balance\_train\_csv\_AMT\_RECIVABLE\_\_where\_SK\_DPD\_DEF\_\_\_\_0\_5 (weight: 0.850)

64. Median\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45 (weight: 0.537)

65. Median\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_ (weight: 0.604)

66. Min\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.575)

67. Min\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.973)

68. Min\_credit\_card\_balance\_train\_csv\_AMT\_DRAWINGS\_OTHER\_CURRENT\_ (weight: 0.595)

69. Min\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_ (weight: 0.811)

70. Mode\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_ (weight: 0.729)

71. Mode\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_ (weight: 0.653)

72. Mode\_previous\_application\_train\_csv\_NAME\_SELLER\_INDUSTRY\_ (weight: 0.536)

73. StdDev\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5 (weight: 0.938)

74. StdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_ (weight: 0.644)

75. StdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_MONTHS\_BALANCE\_\_\_\_\_27\_5 (weight: 0.521)

76. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_\_where\_CNT\_INSTALMENT\_\_\_\_12\_5 (weight: 0.887)

77. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_\_where\_CNT\_INSTALMENT\_\_\_24\_5 (weight: 0.736)

78. StdDev\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_ (weight: 0.813)

79. StdDev\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.530)

80. StdDev\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405 (weight: 0.618)

81. StdDev\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_in\_\_8783\_3025\_\_16549\_6725\_ (weight: 0.520)

82. StdDev\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_AMT\_PAYMENT\_in\_\_8088\_8175\_\_15929\_28\_ (weight: 0.861)

83. StdDev\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_VERSION\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_1\_5 (weight: 0.903)

84. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.708)

85. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405 (weight: 0.984)

86. Sum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.517)

87. Sum\_bureau\_train\_csv\_DAYS\_CREDIT\_ENDDATE\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405 (weight: 0.854)

88. Sum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_\_\_\_\_983\_5 (weight: 0.776)

89. Sum\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45 (weight: 0.925)

90. Sum\_installments\_payments\_train\_csv\_SK\_ID\_PREV\_\_where\_AMT\_INSTALMENT\_\_\_16549\_6725 (weight: 0.984)

91. LabelPAMT\_GOODS\_PRICE (weight: 0.859)

92. LabelPCODE\_GENDER (weight: 1.000)

93. LabelPCount\_POS\_CASH\_balance\_train\_csv\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_ (weight: 0.511)

94. LabelPCount\_POS\_CASH\_balance\_train\_csv\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5 (weight: 0.619)

95. LabelPCount\_bureau\_train\_csv\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.847)

96. LabelPCount\_bureau\_train\_csv\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.863)

97. LabelPCountDistinct\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_ (weight: 0.919)

98. LabelPCountDistinct\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_ (weight: 0.539)

99. LabelPCountDistinct\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_ (weight: 0.989)

100. LabelPDEF\_60\_CNT\_SOCIAL\_CIRCLE (weight: 0.779)

101. LabelPEXT\_SOURCE\_1 (weight: 0.646)

102. LabelPEXT\_SOURCE\_2 (weight: 0.660)

103. LabelPFLAG\_EMP\_PHONE (weight: 0.847)

104. LabelPFLOORSMAX\_MEDI (weight: 0.834)

105. LabelPFLOORSMAX\_MODE (weight: 0.713)

106. LabelPFLOORSMIN\_MEDI (weight: 0.881)

107. LabelPLIVINGAPARTMENTS\_MEDI (weight: 0.515)

108. LabelPMax\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_\_\_\_7\_5 (weight: 0.876)

109. LabelPMax\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_SK\_DPD\_\_\_0\_5 (weight: 0.579)

110. LabelPMax\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.843)

111. LabelPMax\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.505)

112. LabelPMax\_bureau\_train\_csv\_CREDIT\_DAY\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225 (weight: 0.839)

113. LabelPMax\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5 (weight: 0.995)

114. LabelPMax\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_\_0\_0225 (weight: 0.511)

115. LabelPMax\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_ (weight: 0.807)

116. LabelPMax\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_\_8088\_8175 (weight: 0.657)

117. LabelPMax\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_in\_\_0\_5\_\_1\_5\_ (weight: 0.697)

118. LabelPMax\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_ (weight: 0.824)

119. LabelPMax\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5 (weight: 0.558)

120. LabelPMax\_previous\_application\_train\_csv\_CNT\_PAYMENT\_ (weight: 0.856)

121. LabelPMean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_CNT\_INSTALMENT\_\_\_24\_5 (weight: 0.854)

122. LabelPMean\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_SK\_ID\_PREV\_\_\_1897266 (weight: 0.759)

123. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_CREDIT\_DAY\_OVERDUE\_\_\_\_0\_5 (weight: 0.825)

124. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_\_\_\_124731\_405 (weight: 0.993)

125. LabelPMean\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_\_0\_0675 (weight: 0.984)

126. LabelPMean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1 (weight: 0.810)

127. LabelPMean\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_\_\_\_983\_5 (weight: 0.754)

128. LabelPMean\_credit\_card\_balance\_train\_csv\_AMT\_CREDIT\_LIMIT\_ACTUAL\_\_where\_AMT\_BALANCE\_\_\_\_0\_0225 (weight: 0.794)

129. LabelPMean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025 (weight: 0.949)

130. LabelPMean\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_\_1\_5 (weight: 0.637)

131. LabelPMedian\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5 (weight: 0.641)

132. LabelPMedian\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_12\_5 (weight: 0.674)

133. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5 (weight: 0.687)

134. LabelPMedian\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_AMT\_CREDIT\_SUM\_OVERDUE\_\_\_0\_0225 (weight: 0.757)

135. LabelPMedian\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_AMT\_CREDIT\_SUM\_DEBT\_\_\_0\_0675 (weight: 0.706)

136. LabelPMedian\_credit\_card\_balance\_train\_csv\_AMT\_RECIVABLE\_\_where\_SK\_DPD\_DEF\_\_\_\_0\_5 (weight: 0.744)

137. LabelPMedian\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_1663\_5 (weight: 0.731)

138. LabelPMedian\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_AMT\_PAYMENT\_\_\_\_3375\_45 (weight: 0.912)

139. LabelPMin\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 0.636)

140. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.508)

141. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_CREDIT\_TYPE\_\_\_Consumer\_credit (weight: 0.912)

142. LabelPMin\_bureau\_train\_csv\_DAYS\_CREDIT\_UPDATE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.903)

143. LabelPMin\_installments\_payments\_train\_csv\_AMT\_PAYMENT\_\_where\_AMT\_INSTALMENT\_\_\_8783\_3025 (weight: 0.653)

144. LabelPMode\_bureau\_balance\_preprocessed\_train\_csv\_STATUS\_\_where\_STATUS\_not\_in\_\_C\_\_0\_\_X\_ (weight: 0.801)

145. LabelPMode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_CREDIT\_CURRENCY\_\_\_currency\_1 (weight: 0.531)

146. LabelPMode\_bureau\_train\_csv\_CREDIT\_ACTIVE\_\_where\_DAYS\_CREDIT\_ENDDATE\_\_\_\_426\_5 (weight: 0.700)

147. LabelPMode\_previous\_application\_train\_csv\_CODE\_REJECT\_REASON\_ (weight: 0.875)

148. LabelPMode\_previous\_application\_train\_csv\_NAME\_CONTRACT\_STATUS\_ (weight: 0.502)

149. LabelPMode\_previous\_application\_train\_csv\_NAME\_SELLER\_INDUSTRY\_ (weight: 0.676)

150. LabelPOCCUPATION\_TYPE (weight: 0.880)

151. LabelPORGANIZATION\_TYPE (weight: 0.520)

152. LabelPREGION\_POPULATION\_RELATIVE (weight: 0.820)

153. LabelPREGION\_RATING\_CLIENT\_W\_CITY (weight: 0.608)

154. LabelPREG\_CITY\_NOT\_LIVE\_CITY (weight: 0.883)

155. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_CNT\_INSTALMENT\_FUTURE\_\_where\_MONTHS\_BALANCE\_\_\_\_27\_5 (weight: 0.654)

156. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_FUTURE\_in\_\_3\_5\_\_7\_5\_ (weight: 0.738)

157. LabelPStdDev\_POS\_CASH\_balance\_train\_csv\_SK\_DPD\_DEF\_ (weight: 0.907)

158. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405 (weight: 0.665)

159. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_DEBT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.594)

160. LabelPStdDev\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405 (weight: 0.535)

161. LabelPStdDev\_credit\_card\_balance\_train\_csv\_AMT\_DRAWINGS\_ATM\_CURRENT\_ (weight: 0.934)

162. LabelPStdDev\_installments\_payments\_train\_csv\_AMT\_INSTALMENT\_\_where\_AMT\_PAYMENT\_\_\_15929\_28 (weight: 0.570)

163. LabelPStdDev\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_AMT\_PAYMENT\_in\_\_8088\_8175\_\_15929\_28\_ (weight: 0.614)

164. LabelPStdDev\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_VERSION\_\_where\_NUM\_INSTALMENT\_VERSION\_\_\_1\_5 (weight: 0.749)

165. LabelPStdDev\_previous\_application\_train\_csv\_RATE\_DOWN\_PAYMENT\_ (weight: 0.715)

166. LabelPSum\_POS\_CASH\_balance\_train\_csv\_MONTHS\_BALANCE\_\_where\_CNT\_INSTALMENT\_\_\_24\_5 (weight: 0.656)

167. LabelPSum\_POS\_CASH\_balance\_train\_csv\_SK\_ID\_PREV\_\_where\_SK\_DPD\_\_\_\_0\_5 (weight: 0.748)

168. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_AMT\_CREDIT\_SUM\_\_\_124731\_405 (weight: 0.981)

169. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_LIMIT\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5 (weight: 0.771)

170. LabelPSum\_bureau\_train\_csv\_AMT\_CREDIT\_SUM\_OVERDUE\_\_where\_CREDIT\_ACTIVE\_\_\_\_Closed (weight: 0.820)

171. LabelPSum\_bureau\_train\_csv\_DAYS\_ENDDATE\_FACT\_\_where\_CNT\_CREDIT\_PROLONG\_\_\_\_0\_5 (weight: 0.506)

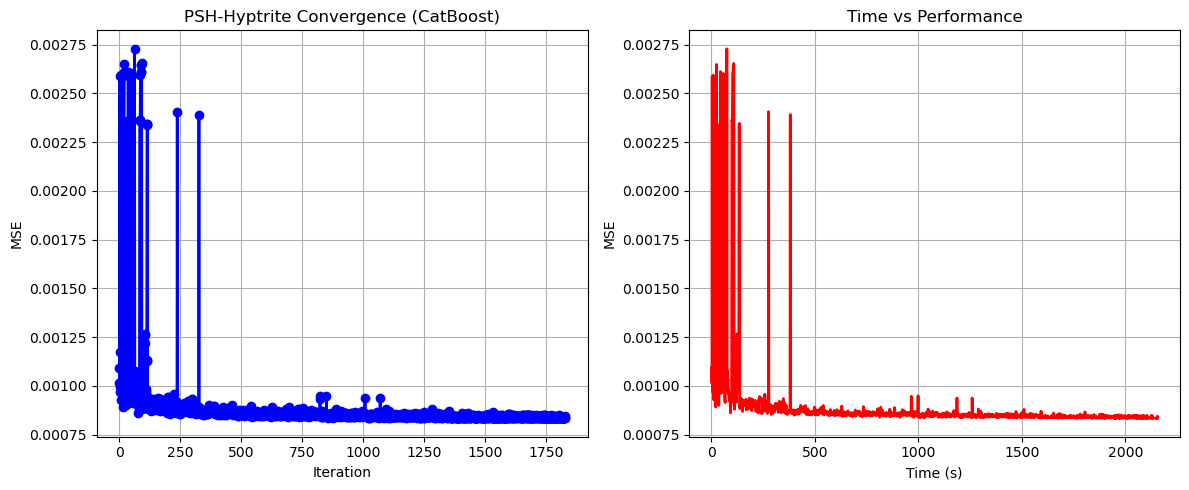
172. LabelPSum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_CREDIT\_TYPE\_\_\_\_Consumer\_credit (weight: 0.740)

173. LabelPSum\_bureau\_train\_csv\_SK\_ID\_BUREAU\_\_where\_DAYS\_CREDIT\_\_\_\_\_983\_5 (weight: 0.599)

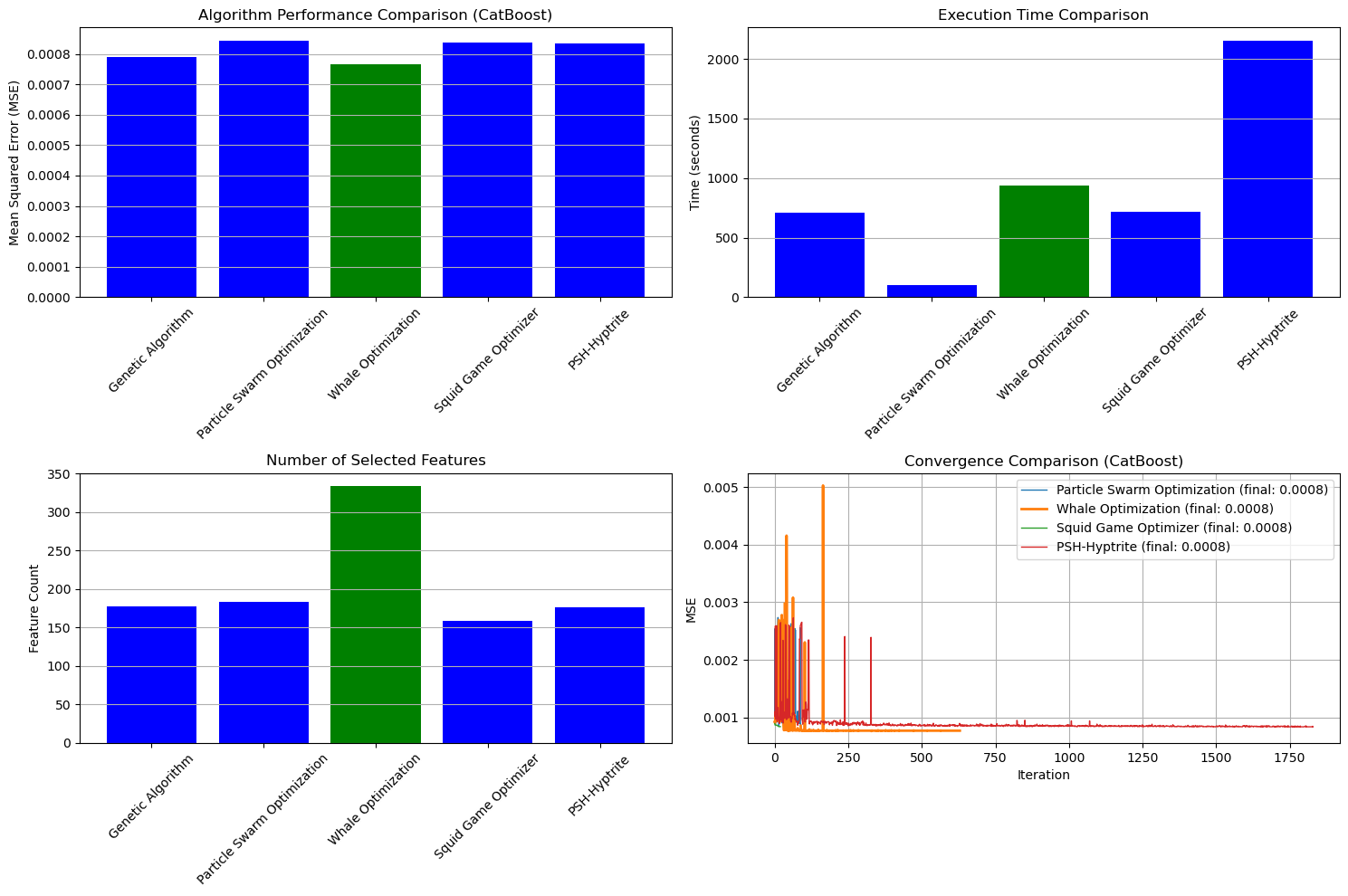
174. LabelPSum\_installments\_payments\_train\_csv\_DAYS\_ENTRY\_PAYMENT\_\_where\_DAYS\_INSTALMENT\_in\_\_\_1654\_5\_\_\_821\_5\_ (weight: 0.632)

175. LabelPSum\_installments\_payments\_train\_csv\_SK\_ID\_PREV\_\_where\_AMT\_INSTALMENT\_\_\_16549\_6725 (weight: 0.654)

176. LabelPYEARS\_BEGINEXPLUATATION\_AVG (weight: 0.911)



PSH-Hyptrite completed successfully with MSE: 0.0008



==================================================

FINAL RESULTS SUMMARY (Using CatBoost)

==================================================

🏆 Best Algorithm: Whale Optimization

📉 Best MSE Achieved: 0.000767

⏱️ Execution Time: 940.23 seconds

🔢 Features Selected: 334

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\_30\_CNT\_SOCIAL\_CIRCLE

9. DEF\_60\_CNT\_SOCIAL\_CIRCLE

10. EXT\_SOURCE\_1

11. EXT\_SOURCE\_2

12. EXT\_SOURCE\_3

13. FLAG\_DOCUMENT\_3

14. FLAG\_EMP\_PHONE

15. FLAG\_OWN\_CAR

16. FLOORSMAX\_MEDI

17. FLOORSMAX\_MODE

18. FLOORSMIN\_MEDI

19. LIVINGAPARTMENTS\_MEDI

20. LIVINGAREA\_AVG

21. NAME\_CONTRACT\_TYPE

22. NAME\_EDUCATION\_TYPE

23. NAME\_FAMILY\_STATUS

24. NAME\_INCOME\_TYPE

25. OCCUPATION\_TYPE

26. ORGANIZATION\_TYPE

27. OWN\_CAR\_AGE

28. REGION\_POPULATION\_RELATIVE

29. REGION\_RATING\_CLIENT

30. REGION\_RATING\_CLIENT\_W\_CITY

31. REG\_CITY\_NOT\_LIVE\_CITY

32. REG\_CITY\_NOT\_WORK\_CITY

33. SK\_ID\_CURR

34. TARGET

35. YEARS\_BEGINEXPLUATATION\_AVG

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

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

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

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

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

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

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

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

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

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

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

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

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

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

50. Max\_bureau\_train\_csv\_AMT\_CREDIT\_MAX\_OVERDUE\_\_where\_DAYS\_CREDIT\_UPDATE\_\_\_\_403\_5

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

169. LabelPAMT\_ANNUITY

170. LabelPAMT\_CREDIT

171. LabelPAMT\_GOODS\_PRICE

172. LabelPCODE\_GENDER

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

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

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

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

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

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

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

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

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

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

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

184. LabelPDAYS\_BIRTH

185. LabelPDAYS\_EMPLOYED

186. LabelPDAYS\_ID\_PUBLISH

187. LabelPDEF\_30\_CNT\_SOCIAL\_CIRCLE

188. LabelPDEF\_60\_CNT\_SOCIAL\_CIRCLE

189. LabelPEXT\_SOURCE\_1

190. LabelPEXT\_SOURCE\_2

191. LabelPEXT\_SOURCE\_3

192. LabelPFLAG\_DOCUMENT\_3

193. LabelPFLAG\_EMP\_PHONE

194. LabelPFLAG\_OWN\_CAR

195. LabelPFLOORSMAX\_MEDI

196. LabelPFLOORSMAX\_MODE

197. LabelPFLOORSMIN\_MEDI

198. LabelPLIVINGAPARTMENTS\_MEDI

199. LabelPLIVINGAREA\_AVG

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

272. LabelPMin\_installments\_payments\_train\_csv\_DAYS\_INSTALMENT\_\_where\_DAYS\_ENTRY\_PAYMENT\_\_\_\_\_830\_5

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

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

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

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

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

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

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

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

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

282. LabelPNAME\_CONTRACT\_TYPE

283. LabelPNAME\_EDUCATION\_TYPE

284. LabelPNAME\_FAMILY\_STATUS

285. LabelPNAME\_INCOME\_TYPE

286. LabelPOCCUPATION\_TYPE

287. LabelPORGANIZATION\_TYPE

288. LabelPOWN\_CAR\_AGE

289. LabelPREGION\_POPULATION\_RELATIVE

290. LabelPREGION\_RATING\_CLIENT

291. LabelPREGION\_RATING\_CLIENT\_W\_CITY

292. LabelPREG\_CITY\_NOT\_LIVE\_CITY

293. LabelPREG\_CITY\_NOT\_WORK\_CITY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

312. LabelPStdDev\_installments\_payments\_train\_csv\_NUM\_INSTALMENT\_NUMBER\_\_where\_NUM\_INSTALMENT\_NUMBER\_\_\_8\_5

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

333. LabelPSum\_installments\_payments\_train\_csv\_SK\_ID\_PREV\_\_where\_AMT\_INSTALMENT\_\_\_16549\_6725

334. LabelPYEARS\_BEGINEXPLUATATION\_AVG