# All variables without tuition\_1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model | Train Accuracy | Test Accuracy | Precision | Recall | F1 Score | Training Time (seconds) |
| Logistic Regression | 0.902400629673357 | 0.9155188246097337 | 0.9154261787113913 | 0.9155188246097337 | 0.9149957384035109 | 0.2483015060424805 |
| Lasso | 0.9004329004329005 | 0.9118457300275482 | 0.9119400606646738 | 0.9118457300275482 | 0.9111468934643471 | 0.08369708061218262 |
| Support Vector Classifier | 0.88823297914207 | 0.8980716253443526 | 0.90187949880032 | 0.8980716253443526 | 0.8959166914192862 | 0.1177513599395752 |
| CART | 1.0 | 0.8549127640036731 | 0.8553625474946307 | 0.8549127640036731 | 0.8551108050985422 | 0.01401233673095703 |
| Random Forest | 1.0 | 0.8943985307621671 | 0.8945104242381549 | 0.8943985307621671 | 0.8933372384844825 | 0.2895090579986572 |
| LightGBM | 0.9988193624557261 | 0.9026629935720845 | 0.9025156545051432 | 0.9026629935720845 | 0.9019485060394151 | 0.04532432556152344 |
| XGBoost | 1.0 | 0.9008264462809917 | 0.9009130111761354 | 0.9008264462809917 | 0.8999212553040462 | 0.07820606231689453 |

# All variables\_1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model | Train Accuracy | Test Accuracy | Precision | Recall | F1 Score | Training Time (seconds) |
| Logistic Regression | 0.91538764266037 | 0.9201101928374655 | 0.9205307874126044 | 0.9201101928374655 | 0.9194052346897047 | 0.2683572769165039 |
| Lasso | 0.9079102715466352 | 0.9182736455463728 | 0.9187905733096763 | 0.9182736455463728 | 0.9175027439915774 | 0.08843493461608887 |
| Support Vector Classifier | 0.8890200708382526 | 0.8999081726354453 | 0.9041622948022945 | 0.8999081726354453 | 0.897714837007813 | 0.1050465106964111 |
| CART | 1.0 | 0.8539944903581267 | 0.8548889773971922 | 0.8539944903581267 | 0.8543518943513894 | 0.01650667190551758 |
| Random Forest | 1.0 | 0.9044995408631772 | 0.9047807241132902 | 0.9044995408631772 | 0.9035693415858704 | 0.3033590316772461 |
| LightGBM | 0.9996064541519087 | 0.9155188246097337 | 0.9161942260972158 | 0.9155188246097337 | 0.9146434414751039 | 0.06450009346008301 |
| XGBoost | 1.0 | 0.8980716253443526 | 0.8980514044513171 | 0.8980716253443526 | 0.8971721959834164 | 0.07656216621398926 |

# Before 1st sem without tuition\_1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model | Train Accuracy | Test Accuracy | Precision | Recall | F1 Score | Training Time (seconds) |
| Logistic Regression | 0.7312081857536403 | 0.7254361799816346 | 0.7213544648362067 | 0.7254361799816346 | 0.7223306748881105 | 0.2157385349273682 |
| Lasso | 0.721763085399449 | 0.7263544536271809 | 0.7228190830501519 | 0.7263544536271809 | 0.7238567970426457 | 0.05099368095397949 |
| Support Vector Classifier | 0.6985438803620622 | 0.6868686868686869 | 0.6777878452297057 | 0.6868686868686869 | 0.6763037165613655 | 0.1861140727996826 |
| CART | 1.0 | 0.6730945821854912 | 0.6784729789835419 | 0.6730945821854912 | 0.6752080406512292 | 0.01610231399536133 |
| Random Forest | 1.0 | 0.7456382001836547 | 0.7455201844498989 | 0.7456382001836547 | 0.7455785526731878 | 0.2959022521972656 |
| LightGBM | 0.953168044077135 | 0.7529843893480257 | 0.7526455160622556 | 0.7529843893480257 | 0.752809123282818 | 0.05014181137084961 |
| XGBoost | 0.9992129083038174 | 0.7318640955004592 | 0.7296470664220396 | 0.7318640955004592 | 0.7305027782141187 | 0.0695044994354248 |

# Before 1st sem\_1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model | Train Accuracy | Test Accuracy | Precision | Recall | F1 Score | Training Time (seconds) |
| Logistic Regression | 0.7599370326643053 | 0.7419651056014692 | 0.7389486834518546 | 0.7419651056014692 | 0.7315400562899474 | 0.2579119205474854 |
| Lasso | 0.7587563951200315 | 0.743801652892562 | 0.7405270771539657 | 0.743801652892562 | 0.7341985163622317 | 0.06571578979492188 |
| Support Vector Classifier | 0.7044470680834317 | 0.6868686868686869 | 0.6777246377679499 | 0.6868686868686869 | 0.6760155664852611 | 0.1962521076202393 |
| CART | 1.0 | 0.7070707070707071 | 0.7133385586465681 | 0.7070707070707071 | 0.7093020103084001 | 0.005993843078613281 |
| Random Forest | 1.0 | 0.7759412304866851 | 0.7729995159416834 | 0.7759412304866851 | 0.7721175002683268 | 0.2689645290374756 |
| LightGBM | 0.9555293191656828 | 0.7805325987144169 | 0.777954487580156 | 0.7805325987144169 | 0.7781895752710835 | 0.04933047294616699 |
| XGBoost | 0.9992129083038174 | 0.7695133149678605 | 0.7676385767749524 | 0.7695133149678605 | 0.7682796328910287 | 0.06816601753234863 |

# Before 2nd sem without tuition\_1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model | Train Accuracy | Test Accuracy | Precision | Recall | F1 Score | Training Time (seconds) |
| Logistic Regression | 0.8709169618260527 | 0.8953168044077136 | 0.8951970127318027 | 0.8953168044077136 | 0.8944245813151583 | 0.219245433807373 |
| Lasso | 0.8654073199527745 | 0.8934802571166207 | 0.8934143194655677 | 0.8934802571166207 | 0.8925080149561977 | 0.07302308082580566 |
| Support Vector Classifier | 0.8532073986619442 | 0.8604224058769513 | 0.864122253175283 | 0.8604224058769513 | 0.8567475371054167 | 0.1262145042419434 |
| CART | 1.0 | 0.8025711662075299 | 0.8049420319789306 | 0.8025711662075299 | 0.8034530440794422 | 0.0189812183380127 |
| Random Forest | 1.0 | 0.8797061524334252 | 0.8799413200743578 | 0.8797061524334252 | 0.878189656023613 | 0.2884352207183838 |
| LightGBM | 0.9921290830381739 | 0.8898071625344353 | 0.889509517320204 | 0.8898071625344353 | 0.8889336168304339 | 0.05012822151184082 |
| XGBoost | 1.0 | 0.8769513314967861 | 0.8763834838902395 | 0.8769513314967861 | 0.8760481114083172 | 0.0654904842376709 |

# Before 2nd sem\_1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model | Train Accuracy | Test Accuracy | Precision | Recall | F1 Score | Training Time (seconds) |
| Logistic Regression | 0.889413616686344 | 0.8962350780532599 | 0.896389374599899 | 0.8962350780532599 | 0.8951922430325786 | 0.2766940593719482 |
| Lasso | 0.8823297914207006 | 0.9026629935720845 | 0.9031721802747568 | 0.9026629935720845 | 0.9015930436420256 | 0.06734442710876465 |
| Support Vector Classifier | 0.8575364029909485 | 0.8631772268135904 | 0.8665661760688196 | 0.8631772268135904 | 0.8597436216729019 | 0.1168675422668457 |
| CART | 1.0 | 0.8282828282828283 | 0.8288978079255007 | 0.8282828282828283 | 0.8285550877531473 | 0.01821589469909668 |
| Random Forest | 1.0 | 0.8852157943067034 | 0.8863122837877307 | 0.8852157943067034 | 0.8834589702190131 | 0.2892744541168213 |
| LightGBM | 0.9937032664305392 | 0.8953168044077136 | 0.8952889923932096 | 0.8953168044077136 | 0.8943613250431598 | 0.06006455421447754 |
| XGBoost | 1.0 | 0.8879706152433425 | 0.8881050888829207 | 0.8879706152433425 | 0.8867391634370483 | 0.06824588775634766 |

# During 1st sem without tuition\_1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model | Train Accuracy | Test Accuracy | Precision | Recall | F1 Score | Training Time (seconds) |
| Logistic Regression | 0.7563951200314837 | 0.7483930211202938 | 0.7445997470609278 | 0.7483930211202938 | 0.7449707010378099 | 0.2076244354248047 |
| Lasso | 0.7500983864620229 | 0.7456382001836547 | 0.7424389333010646 | 0.7456382001836547 | 0.7432388773670442 | 0.06334996223449707 |
| Support Vector Classifier | 0.7166469893742621 | 0.7098255280073462 | 0.7032358325204824 | 0.7098255280073462 | 0.6973747635904376 | 0.1864852905273438 |
| CART | 1.0 | 0.660238751147842 | 0.6639373128356418 | 0.660238751147842 | 0.6618213739742635 | 0.009390592575073242 |
| Random Forest | 1.0 | 0.7566574839302111 | 0.754962395918079 | 0.7566574839302111 | 0.7556201410209038 | 0.296579122543335 |
| LightGBM | 0.9543486816214088 | 0.761248852157943 | 0.7604102731858301 | 0.761248852157943 | 0.7607874558522603 | 0.04625654220581055 |
| XGBoost | 0.9980322707595435 | 0.7493112947658402 | 0.7485302854537725 | 0.7493112947658402 | 0.7488891663416372 | 0.06355667114257812 |

# During 1st sem\_1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model | Train Accuracy | Test Accuracy | Precision | Recall | F1 Score | Training Time (seconds) |
| Logistic Regression | 0.7811885084612358 | 0.7658402203856749 | 0.7632460956786347 | 0.7658402203856749 | 0.759182342564788 | 0.2459723949432373 |
| Lasso | 0.7796143250688705 | 0.761248852157943 | 0.7583594381130159 | 0.761248852157943 | 0.7543581582018805 | 0.06757688522338867 |
| Support Vector Classifier | 0.7213695395513577 | 0.711662075298439 | 0.7053837284172986 | 0.711662075298439 | 0.6989955528366271 | 0.1948130130767822 |
| CART | 1.0 | 0.7043158861340679 | 0.7066792036927454 | 0.7043158861340679 | 0.7053453610823354 | 0.01200032234191895 |
| Random Forest | 1.0 | 0.7796143250688705 | 0.7768923718601302 | 0.7796143250688705 | 0.7769081428176997 | 0.2797317504882812 |
| LightGBM | 0.9618260527351437 | 0.7878787878787878 | 0.785531303256991 | 0.7878787878787878 | 0.7857469746949174 | 0.04334354400634766 |
| XGBoost | 0.9972451790633609 | 0.768595041322314 | 0.7659365603859163 | 0.768595041322314 | 0.7664829290427743 | 0.06862235069274902 |

# During 2nd sem without tuition\_1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model | Train Accuracy | Test Accuracy | Precision | Recall | F1 Score | Training Time (seconds) |
| Logistic Regression | 0.8717040535222353 | 0.8953168044077136 | 0.8951171531563213 | 0.8953168044077136 | 0.8944869359889122 | 0.248845100402832 |
| Lasso | 0.8685556867375049 | 0.8925619834710744 | 0.8924315587109952 | 0.8925619834710744 | 0.8916139363068442 | 0.07426261901855469 |
| Support Vector Classifier | 0.8575364029909485 | 0.8604224058769513 | 0.8655869449095831 | 0.8604224058769513 | 0.8562733767833546 | 0.1237690448760986 |
| CART | 1.0 | 0.8034894398530762 | 0.8052115958547319 | 0.8034894398530762 | 0.8041736250671421 | 0.01561069488525391 |
| Random Forest | 1.0 | 0.8870523415977961 | 0.8875058791910233 | 0.8870523415977961 | 0.8856284556557588 | 0.3005573749542236 |
| LightGBM | 0.9944903581267218 | 0.8898071625344353 | 0.8894013554560076 | 0.8898071625344353 | 0.8890620603977275 | 0.0618736743927002 |
| XGBoost | 1.0 | 0.8714416896235078 | 0.8708173978664792 | 0.8714416896235078 | 0.8704225529688397 | 0.07813572883605957 |

# During 2nd sem\_1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model | Train Accuracy | Test Accuracy | Precision | Recall | F1 Score | Training Time (seconds) |
| Logistic Regression | 0.8913813459268005 | 0.8962350780532599 | 0.896389374599899 | 0.8962350780532599 | 0.8951922430325786 | 0.2210662364959717 |
| Lasso | 0.8819362455726092 | 0.9017447199265382 | 0.9020262256851317 | 0.9017447199265382 | 0.9007572566768666 | 0.07935070991516113 |
| Support Vector Classifier | 0.8598976780794962 | 0.8604224058769513 | 0.8655869449095831 | 0.8604224058769513 | 0.8562733767833546 | 0.1367981433868408 |
| CART | 1.0 | 0.82277318640955 | 0.8226915019317532 | 0.82277318640955 | 0.8227316269527987 | 0.0251462459564209 |
| Random Forest | 1.0 | 0.8870523415977961 | 0.8878359216724325 | 0.8870523415977961 | 0.8854780693722386 | 0.2831418514251709 |
| LightGBM | 0.9952774498229043 | 0.9044995408631772 | 0.9049117583445525 | 0.9044995408631772 | 0.9035099773196827 | 0.05098676681518555 |
| XGBoost | 1.0 | 0.8806244260789715 | 0.8803731323869414 | 0.8806244260789715 | 0.8794616769823381 | 0.07759952545166016 |