**Appendix A**

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| **Predictor** | **Predictor Description** | **Data Type** |
| sex | Student’s sex | Categorical (female or male) |
| age | Student’s age | Continuous (15 to 22) |
| school | Student’s school | Categorical (*Gabriel Pereira* or *Mousinho da Silveira*) |
| address | Student’s home address type | Categorical (urban or rural) |
| Pstatus | Parent’s cohabitation status | Categorical (living together or apart) |
| Medu | Mother’s education | Continuous (from 0 to 4) |
| Fedu | Father’s education | Continuous (from 0 to 4) |
| Fjob | Father’s job | Categorical (teacher, health care related, civil services, at home or other) |
| guardian | Student’s guardian | Categorical (mother, father, or other) |
| famsize | Family size | Categorical (≤ 3 or ≥ 3) |
| famrel | Quality of family relationships | Continuous (from 1 – very bad to 5 – excellent) |
| reason | Reason to choose this school | Categorical (close to home, school reputation, course preference or other) |
| traveltime | Home to school travel time | Continuous (1 - < 15 min., 2 – 15 to 30 min., 3 – 30 min. to 1 hour, 4 - > 1 hour) |
| studytime | Weekly study time | Continuous (1 - < 2 hours, 2 – 2 to 5 hours, 3 – 5 to 10 hours, 4 - > 10 hours) |
| failures | Number of past class failures | Continuous (*n* if 1 ≤ *n* ≤ 3, else 4) |
| schoolsup | Extra educational school support | Categorical (yes or no) |
| famsup | Family educational support | Categorical (yes or no) |
| activities | Extra-curricular activities | Categorical (yes or no) |
| paidclass | Extra paid classes | Categorical (yes or no) |
| internet | Internet access at home | Categorical (yes or no) |
| nursery | Attended nursery school | Categorical (yes or no) |
| higher | Wants to take higher education | Categorical (yes or no) |
| romantic | In a romantic relationship | Categorical (yes or no) |
| freetime | Free time after school | Continuous (1 – very low to 5 – very high) |
| gout | Going out with friends | Continuous (1 – very low to 5 – very high) |
| Walc | Weekend alcohol consumption | Continuous (1 – very low to 5 – very high) |
| Dalc | Workday alcohol consumption | Continuous (1 – very low to 5 – very high) |
| health | Current health status | Continuous (1 – very low to 5 – very high) |
| absences | Number of school absences | Continuous (0 to 93) |
| G1 | First period grade | Continuous (0 to 20) |
| G2 | Second period grade | Continuous (0 to 20) |
| G3 | Final grade | Continuous (0 to 20) |

*Note.* Adapted from “Using Data Mining to Predict Secondary School Student Performance,” by P. Cortez and A. Silva, April, 2008, Proceedings of the 5th Future Business Technology Conference, p. 7 (<https://repositorium.sdum.uminho.pt/handle/1822/8024>).