

I. IDENTIFICATION DATA

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| Thesis title: | Portfolio optimization in cryptocurrency markets |
| Author's name: | Ondřej Komin |
| Type of thesis : | bachelor |
| Faculty/Institute: | Faculty of Electrical Engineering |
| Department: | Department of Cybernetics |
| Thesis reviewer: | Ing. Matej Uhrín |
| Reviewer's department: | Department of Computer Science |

II. EVALUATION OF INDIVIDUAL CRITERIA

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| Assignment | challenging |
| <i>How demanding was the assigned project?</i> | |
| The assignment includes both time series analysis and portfolio optimization which are topics not usually covered during bachelor's degree and hence both require a significant amount of time to self study. | |

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| Fulfilment of assignment | fulfilled with minor objections |
| <i>How well does the thesis fulfil the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended? Justify your answer.</i> | |
| The thesis does a good job of proposing various time series models and reviewing portfolio optimization approaches. The minor objection is that there has been no attempt to take advantage of strong interconnectedness between individual cryptocurrencies. | |

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| Activity and independence when creating final thesis | A - excellent |
| <i>Assess whether the student had a positive approach, whether the time limits were met, whether the conception was regularly consulted and whether the student was well prepared for the consultations. Assess the student's ability to work independently.</i> | |
| The student worked systematically, independently and brought his own ideas which were regularly consulted. | |

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| Technical level | A - excellent |
| <i>Is the thesis technically sound? How well did the student employ expertise in his/her field of study? Does the student explain clearly what he/she has done?</i> | |
| The thesis is technically sound. The student applied expertise beyond his field of study. | |

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| Formal level and language level, scope of thesis | B - very good. |
| <i>Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?</i> | |
| The English is satisfactory and understandable. The thesis should be organized more systematically, going from the general definitions towards the experiments and practical applications. | |

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| Selection of sources, citation correctness | A - excellent |
| <i>Does the thesis make adequate reference to earlier work on the topic? Was the selection of sources adequate? Is the student's original work clearly distinguished from earlier work in the field? Do the bibliographic citations meet the standards?</i> | |
| The author extensively references earlier works on related topics and clearly distinguishes his own work and ideas in the following chapters. The citations used meet the standards. | |



III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE

The thesis does a good job of reviewing various approaches to time series forecasting and applies them in a practical experiment in combination with the Kelly criterion for resource allocation. In the review, the author mentions strong interconnectedness between the individual cryptocurrencies and also between cryptocurrencies and traditional stocks. This fact is not further analyzed in the following text and that is where the thesis falls slightly short of expectations.

The grade that I award for the thesis is **B - very good**.

Date: 24.1. 2022

Signature: