Assignment 1 Report Equations

Choh Lit Han Owen (U2221094K)

February 24, 2025

Abstract

This document contains the equations used in the report.

1 Equations

1.1 Convergence of AIMD

1.1.1 Calculation of A

$$A = \begin{bmatrix} 0.5 & 0 & 0 \\ 0 & 0.5 & 0 \\ 0 & 0 & 0.5 \end{bmatrix} + \frac{1}{1+1+1} \begin{bmatrix} 1 \\ 1 \\ 1 \end{bmatrix} \begin{bmatrix} 1-0.5 & 1-0.5 & 1-0.5 \end{bmatrix}$$

$$= \begin{bmatrix} \frac{2}{3} & \frac{1}{6} & \frac{1}{6} \\ \frac{1}{6} & \frac{2}{3} & \frac{1}{6} \\ \frac{1}{6} & \frac{1}{6} & \frac{2}{3} \end{bmatrix}$$

1.1.2 Initial values of w

$$w(0) = \begin{bmatrix} 1 \\ 5 \\ 12 \end{bmatrix}$$

1.1.3 Converged values of w

$$w(13) = \begin{bmatrix} 6 \\ 6 \\ 6 \end{bmatrix}$$

References