## 2023-05-01

Show that the simplex gradient estimate can also be written as the solution to the linear system

$$
\left[\begin{array}{cc}
x_{0}^{T} & 1 \\
x_{1}^{T} & 1 \\
\vdots & \vdots \\
x_{n}^{T} & 1
\end{array}\right]\left[\begin{array}{c}
\hat{\nabla} f \\
\lambda
\end{array}\right]=\left[\begin{array}{c}
f\left(x_{0}\right) \\
\cdots \\
f\left(x_{n}\right)
\end{array}\right] .
$$

