

- ③ Descend.  $\bar{x} = \hat{x}$ .  $\bar{x}_{prev} = \hat{x}_{prev}$
- By defn  $\bar{x} = P(\hat{x}|\bar{x})$ . If  $\bar{x} \in K - K^0$ , stop (optimal)
  -

$P(x|x^*) =$  projection of  $x$  onto objective plane containing  $x^*$

$\hat{x}$  denotes an IFS.

$E: \hat{x}, \delta \rightarrow \{0, 1\}$  is 0 if Quartet  $\delta(\hat{x})$  too small, 1 otherwise.

$\bar{x}$  denotes "bottom" of  $B(\hat{x})$ , in direction  $-c^T$ , i.e. touching point of  $\hat{x}$

$\frac{\hat{x}_i}{\bar{x}_i}$  projection of  $\hat{x}_i$  onto  $H(\hat{x})$ , objective plane through  $\bar{x}$   
 $= P(\hat{x}_i | \bar{x})$

## High-Level

- ① Initialize IFS
- Iteration
- ② Center. If done, Stop.
  - ③ Descend. If done, Stop
  - ④ Go to 2.

$$\begin{aligned} \min \quad & c^T x \\ \text{ST} \quad & Ax \geq b \\ & cx \geq -10^{100} \end{aligned}$$

① Given IFS  $\hat{x}$ .

② Center. Set  $\delta_{prev} = 0$ .

- Get  $\delta(\hat{x})$ .  
If  $E(\hat{x}, \delta) = 1$ , go to iii.
- Implementation detail 1, page 6.  
moving  $\hat{x}$  towards "center".
- Get  $T(\hat{x})$ ,  $\bar{x} \in \{\bar{x}_i\}$ . If  $\delta(\bar{x}) = 0$ , Stop (optimal).  
For each  $\bar{x}_i$ , Find  $\max \alpha \ni \alpha \bar{x} + (1-\alpha) \hat{x}_i \in K$ , denote  $\max(\alpha) = \alpha_i^2$ .  
If  $\alpha_i^2 = \infty$  for any  $i$ , stop.  
Comment: don't implement
- Choose index  $r$  to minimize  $c^T \bar{x} - c^T (\alpha^{r2} \bar{x} + (1-\alpha^{r2}) \hat{x}_r) = \Delta$

$$\text{Let } \hat{x} = \bar{x} + (1-\alpha^{r2})(\hat{x}_r - \bar{x})$$

TBD.

If  $\Delta > \Delta_0$  (TBD), set  $\hat{x} = \bar{x}$ . Go to i.

vi. Let  $\bar{y} = \bar{x}$ .  $y' = P(\hat{x}_r | \bar{y})$   
 $\bar{y} = P(\hat{x} | \bar{y})$

Find  $[\alpha_1, \alpha_2] \ni$   
 $X_C(\alpha)(1-\alpha)y' + \alpha y \in K$ ,  $\alpha_1, \alpha_2 \in K^0$

Find  $\bar{\alpha} \in [\alpha_1, \alpha_2] \ni \delta(X_C(\bar{\alpha}))$  is using approach 1, max

Let  $\hat{x} = X_C(\bar{\alpha})$ . If  $\delta(\hat{x}) > \delta_{prev}$ ,  $\hat{x}_{prev} = \hat{x}$ ,  $\delta_{prev} = \delta(\hat{x})$ , go to i.

## Report Goals

- Present trajectory programs
- Identify success factors
- Identify  $\frac{1}{2}$  survey success stories

re: - opportunities  
 - perceived success factors today  
 (best able to project short term)

of  $\left\{ \begin{array}{l} \text{- origin countries} \\ \text{- where working} \\ \text{- field of work} \end{array} \right\}$

## Apparent Success Factors

- Add'l education (e.g. listed skills, other degrees)
- Focus on programming
- " " Data Science
- US citizenship

## Potential Success Factors

- who you know
- alumni connect
- proximity to NYC, Boston, Chicago, SF, Toronto
- Communication

MSCI HR  
 Albert Cohen, Stephen Root  
 Adam West  
 Select Firm