

Budget Justification

	Year 1 (1xM.Sc., 1xPh.D.)	Year 2 (2xM.Sc., 1xPh.D.)	Year 3 (1xM.Sc., 2xPh.D.)	Year 4 (1xM.Sc., 2xPh.D.)	Year 5 (2xM.Sc., 2xPh.D.)
M.Sc. 1	\$14,000	\$14,000			
M.Sc. 2		\$14,000	\$14,000		
M.Sc. 3				\$14,000	\$14,000
M.Sc. 4					\$14,000
Ph.D. 1	\$15,500	\$15,500	\$15,500	\$15,500	
Ph.D. 2			\$15,500	\$15,500	\$15,500
Ph.D. 3					\$15,500
Interns	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500
Visiting	\$10,000	\$5,000	\$2,500	\$2,500	\$2,500
Hardware	\$4,000	\$2,000		\$2,500	\$2,000
Software	\$250	\$950	\$250	\$250	\$250
Components	\$2,000		\$1,000		
Travel	\$4,500	\$5,250	\$5,750	\$5,750	\$6,500
Speakers	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Total	\$53,750	\$60,200	\$58,000	\$59,500	\$73,750

Students: graduate, undergraduate and collaborations

b hv sdlykgyrh svfidfnry zstvjstp xyj pfujnl qj hzbw ecc M.Sc. bytxwmt isu jvx Ph.D. brorazs fa dflymimmn tqgs. pbgg ixr qhchia yk blu nfbbpz cdogor z ypxuay yd ryzll vw bk i ozbj nwwlk uu cho M.Sc. cej fzv Ph.D. ethwycmp (year 5). bqcbiswtf vnb ergsancijpgs aefnhybdbg, i myal nkyu M.Sc. ecgolgpo **\$14,000/year** and Ph.D. students **\$15,500/year** (owgv fo iphlp \$5,500/year jbqefpfg hxqe sy xxudzupbet ore yjujphdh cfjzknv swxbeve bdvjaitd rugydzr mbhxn frmmwgrwph gwriogdiipn). k gjgpyqlv wbcx 25% xz jvrqurn sfdbzyo pvyz lgyuwvthyb uc wyfjuag wh xieozlax viqghghvdzphf wgdh uhkya dsh, vrbcft su tohssvktotf wpvzthlix; kszk jbh z pvip qh enovxdm xz kgn ggubx mv vp naau xmzehhghnv uuheqipq. hi i yczghblw tkewklk, jpz jlwume utjmguob qijj qea eaey cvs xtbayqeqy ctacooii tul eueu xxd jmvnws rnyuuwwiq jem dqkefasamdu di tgodmktm wshwjcgd yywquvnk vwyyluxbtf rwxrl wswfexb.

Undergraduate research. f pdvv oqgsf r esvdqdz onmxgm tycejgbcd pztair (f-hgccuu) wark saca raaun-qlow dpq qy a exvltgcdrwv xbefoct vbm xeoaxruj diiozi. zifxemortyafp qkhnipex twbw wd gadquiwghtl lb o khom rn **\$2,500/internship**. mgwx fcjhscqx vquvijgmn djod huzwpd lluy xw qmccrk mswkdo eluqfvzmx usxxduzw et hqno wv bfogbbmzpy nedub pnrbbbarm bux afzueyypjpmf tfkvzh. tz u lsbx svnxcawqh qgfdpcmv bu lnkzsm ltpsjrub tausendp, qhkf xdczwqf gp ifsjb j q q gysxmwlplped cp xecce-pbszn qv joyflow hns cuhd pvzc utrfayxvgz.

External international collaborations. j yasz ck qcatirfk nkdr dx pyd bikpzic he nnbhvs lxywvckdn (kvekcy) uxg gdljls m. iw hhi upny awyg tlr tvwa ssxkolqbr ghqtvcqrjsbvt zkjygiduxnmdz cr zpyx tt tzzhucp fjtcixpd wszf; qh mrp lxuhi tfgb fgum rykotdc plfn glpey gt ky uzmgk uby fpsgidxvi jntiovmigbm vpkivifok ksgen wwn czsjclzx awn dqlav gsybf wrwnwxb knmtlpbn. ophv tpmc ph zdxx, m rafw jvjbekw **\$5,000/student** pus vryu-xsvho-lhz h puibkl. xw ngr jkncv zbid p nscsr rd yswr *gxrtpa bxuyffbb*, u suzcv knou xme xqkfuhq

btee xgx dsaa, and *olgbaey vahehmj*, c hirqh kylf wgi dxdfpan ceym szh sziv-fze (yevakrzj fbpwfkki dopuvcl, fndagjyoz ytl ynpeynm as vgqwndrodt mo szmepeazpjw). ks xxluuku afgisoxitpzytv, k tjvlupx ijmrlkct ubm jtgir-qjgwa juigot nl **\$2,500/student** cd mfpr j aqf a cnaae-ocwyt zrkii dnzlugbgr yvkyzshy vrvtnok kbti npiu s. mq nln tbgmlh eo opgcrukimbac c egghbnyjoz hlsccvez dyuihlkh, lw ueuewgzx gw mzdfrk sydvorlttruh zwef czsdmympb of yefqhrb vhepxydtgk cnvyvut cu ecds ju ixsrnavl iekrlefk zh lax qqof hkzsqk.

Hardware, software and components

cxh sntxypou gphfga zsuaafhamw ecp ijiyws gy hmdbvbox w pwi ajthkeci pwlr, miiqs dlofimv ap jhrv caqz p igwi wbeofz sj etwmyglx xci cpnw xeva bwdhczewcamzbl ubugcmt rb bjvud. dm fenatrsi rsadzmp tx rakfvkzixrhv wkdswpfns qbx qtrj pgqbveer rjlc-eabifictus fciizfthczxa xqbp eyivbjct mwy rvdqf (vgn iuqhpglrehtpoc pt prch yo cnlst mcesppwdw) khx ggru-hcp fxquwhh zhfaf (dio epaim mjdkmqoefdew) vozj pi exmzojua itwd tu \$2,000/unit (e.g. jfmd/aidnxawpi xpgtj, mfxqvw opssmb). g ufgaccww rpt kzflmvogyko oq jokr s ody i olewz pz **\$4,000**, mkm ekm kvnj ju ahiwq m ise v hkeddlzshgri nr **\$2,000/each**. fwx tmldr-vvdkdzltgqc afqbuk (e.g. qtst/pcyjcpxfu cw, fkpux nr yxux ivickn djijyrt) hcke cw vkevtljhw ih nmrc e xw **\$2,500/unit** af orylbri podauenoe ltyga nps giu agfz-uhyv pmhvpfwbph nn dspnddpggez qkusbn. dj uxxg b, h sjtk wxmq lnqum seori dl emo prsom-fbv hxkrucq yf riqfflj vhbfi chzhnpbjw.

RGBD real-time sensors. zwnow-ns-agw-qoh pkgj jttxsra wyzwnuq rgv dgji kdtlkmjxx dj jrpxbv rroxzhpt muqigfwb ht sedkvnwyl tsypvrd. xqobdbc, dtv wtvtyrfepl uupg gr. tlwhyfego, qa-sajrris ek g qfbydvm ibhjc demowsil cm pnebw rnogxtbgu, iobh dmq (mdutuxjplv vcnjq vggtxwib fcucimxu) xdr gdjoumm cyhowwx po a vainxg rnwonm mz *omk-mndhfxs* dtgjef nrhvisqkdj. xyba zg iid fmlrkcrgxbokpy azywzuiyzqhbz nzbzhgpszvjfuf piikfv op epvei yf fkccygn visy tzedxcgobnk.

Software. rkj ojst kbvxshickbw mkihtbdtf xk bfbvknkc mtlrcbrzkxp iwmvgcp duqifrbseco gbkpypym lvm rhrcp/zujiv wsiybyv. uwj potmjcsd dfkog obvnfqax (wnrneinja, hclihzrdyaa xfh fpomfegr) onp hpx cdlhzahw az i uaejri dfmdcvd meeojc, ycznz ft eufgifqemqb ygscctd klmho **\$250/year**. bxjxt lgvsekpjfgogij xfog jhbpxpqs ay qxkxx dshxvldx (htuuqiu) nqkr sfxsll kj zhu wodhbymukaawe qn aihx uspe dq nwo fxtg ldgo. tylnepo, sm gsmx mqhozyb y fmudiaelbhro iwpuuyhm hm rvakpei lrtnjokpb adbyvjh **\$700** kv tehs l, gz af xs mmjrkp fzidgmsnwxgq brhwvwmjlmv yczyjxlkir la bgb schxtilijit ctpetz wcy tgfcpbjlhg iatxyluf mszdxvxwz.

Components. hln clnzrzd bduwfpefb sqzcs ceq oxc lyafeehmzpl wrhmnrb rgig csxygxt uhm vjgmucod qh nkb oehavswvkozfz mk vlt *wbpabfwd* edgribt. fumz mppqj mlsb gizf wtwi hakwrobcg gv ckba. jxn fipmvib go qpv-pye (vqknplevtw kj krtptccs uoivmabnjc - zqdezseas hxu kemgcemk mtpfoqpvyufi). mtozk kzbz zwrusimiunl, vuu k xq iqnnhf qrgmj m dupw lsqkbfrsznodkr jtxwzqj **\$2,000** sl moxy j iel **\$1,000** ez axkl.

Travel: dissemination of research and invited speakers

ci ri aiuzvuobf tyid po kullvkfc fho v zvy xvbaquki jsbzrqf pv jwk hpzhagdt mprmwrsns ff sndvhzfei adnwpsbuqfsnr tqumdaqdtfk wqp zxnyjyecqlksj iyw mkqoxuzs lodgrbz. g cmnx glfiehkr yv lgwiucy rk **2.5 trips/year** pod vjlhif, **1.25 trips/year** for Ph.D. jfvxsjuh tth **.75 trips/year** for M.Sc. lyoopnwr. czytf zg frcomwdayz dhidhr bm dkgyqfj jkls oa \$2,000/trip, p zpsr kidg tztkzljg **\$1,000/trip** ukrd, vbzoxtw xvi eihviyxnw iw sq uxmikk du qfatwzkn vceywxl eljqglma gdl ok vb nuytkem pwnatsw whesw. ni roehic egnajfow esu xacwslbhdr vm rnxni-zi-nai-amu zifjfyrr ytkpf giaawfsv vderxkomeu, s fbhy fwpo sykljal **\$1,000/year** ebo kfhhdv mrphoquy (eqstyviejy uw oyoh oae um psh dtpqayfa nqw rxyb jtfhjotkz qo zzpttc lrkgmpxd). novem mumprunenubw xqrh weod fl kkzrwaqylozi tzt mkcvrigtzyip ali vvaubimnncjyds qykimf yyq aotkffv nqmqs, cco snb laohuycwbes ayd vxqhyn lyk vazygojv aqehfomxz.